٠.

V

```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Minimum DB seg length: 0
Maximum DB seg length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                   2632
1949.4
1636.2
1636.2
1636.2
1590.2
                                                                                                                                                                                                                                                                                                                                    2635.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2699
  100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4708233 seqs, 24227607955 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     June 2, 2005, 05:05:49; Search time 11685.2 Seconds (without alignments)
11192.003 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-727-021-5
2699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GenEmbl: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gb ba: *
gb int g: *
gb om : *
gb pat: *
gb pat: *
gb pat: *
gb pt: *
gb pt: *
gb vi: *
gb un: *
gb un: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
2665
100976
1902
1902
1902
1893
1893
1893
1893
1893
2050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BB
                             AR217194

AX79263

AF140536

AF104201

BAR104201

BAR104525

CQ730452

HS1005F21

CQ782656

BD127245

BD127245

BD127730

BD18730

AX074730

BJ9817

AX559681

AY231164

AY231164

AR104203

BD086287

E39824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SUMMARIES
                 AR217194 Sequence
AX549263 Sequence
AF140538 Homo sapi
AR104201 Sequence
BD086285 G protein
CQ730452 Sequence
AL078633 Human DNA
CQ782656 Sequence
BD127248 Primer fo
AK074730 Homo sapi
B39817 Novel guano
AR559681 Sequence
AY231164 Macaca mu
AR104203 Sequence
BD086287 G protein
B39824 Novel guano
AR559681 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AR135732 Sequence
BD235872 Isolated
```

ALIGNMENTS

RESULT 1

DEFINITION Sequence 5 from patent US 6136559. ACCESSION AR135732 VERSION AR135732 VERSION AR135732. GI:14476404 REYMORDS SOURCE Unchown. ORGANISM Unchown. ORGANISM Unchown. Unclassified. REFERENCE 1 (bases 1 to 2699) Indicateding as human histamine receptor of the H3 subtype JUNA encoding as human histamine receptor of the H3 subtype JOURNAL Patent: US 613659-A 5 24-OCT-2000; FEATURES ONGELY Match 1 2699 ONGIN
lence 5 from patent US 6136559. 35732 35732 35732 35732.1 GI:14476404 35732.1 GI:14764 35732.1 GI:14476404 35732.1 GI:14476404

2401 CACCCCGCCTCTGGGCTCACACCAGCCCTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTT 2460	CCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTGGC 13	, pg Qy
CTCCCACGCCTCCTCCCTCCGCTAAGGCTTCCGGCTGAGCTGTGCCAGCTGCTTCTGCC CTCCCACGCCTCCTCCCTCCGCTAAGGCTTCCGGCTGAGCTGTGCCAGCTGCTTCTGCC	61 GAGGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCGCTGGAGAAGCGCATGAAGATGGTGTC 1320	g Q
ATGILIAAICANAAGAGAAAAATIGCTGAGGAGCTCAGGGCTGGATTGGCAGGTGTGGGAGAAAATTGCTGAGGAGCTCAGGGCTGGATTGGCAGGTGTGGGAGAGAAAATTGCTGAGGAGCTCAGGGCTGGATTGGCAGGTGTGGGAGAGAAAATTGCTGAGGAGCTCAGGGCTGGATTGGCAGGTGTGGGAGAGAAAATTGCTGAGGAGCTCAGGGCTGGATTGGCAGGTGTGGGAGAGAAAATTGCTGAGGAGCTCAGGGCTGGATTGGCAGGTGTGGAGAGAAAATTGCTGAGGAGGAGAGAAAATTGCTGAGGAGGAGAGAAAATTGCTGAGGAGGAGAGAAAATTGCTGAGGAGAGAAAATTGCTAGGAGAGAGA	01 TTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCTCACTCA	A A
1999	141 CGTAGGCCCTGAGGCCGAGGCGACCCTCGGGGGTGGGGT	Qy 11 Db 11
TOTOCCCCCAAAAGTGTCAAGGGGCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTCCA	1 CTGGCAGAAGGGGCACGGGGAGGCCATGCCGCTGCACAGGTATGGGGTGAGGCGGC 1140	Qy db
CCTICTIGETICTIGENTANGCCTCANGGCCIGGCCCTTTCANCCCTCTTTCCCACCANCTCTTTCTTGCTTTTTTTTTT	21 CCCCGAGCCCCTCCCGAGGCCCAGCCCTCACCACCCCCACCCCACCGCCTGGCTGG	Qy Db
CTIGGACACACCIGCACACCGICCCICTCCCCGGACAAGCCCAGGACACTGCCITTGCTG CCTGCACACACCCTGCACACCGTCCCTCTCCCCGGACAAGCCCAGGACACACTGCCTTTGCTG	61 CTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCCGG 1020	Qy db
	01 GGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCAT 960	Db Qy
CCTGCTSGTGCCAACCCTTCCGCAGTTACTGCTTCGTGTGTGTGCACACACA	41 CTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCAC 900	₽ &
CCCACAT IC 1990 I CACCAGGGAAGGGACAGGACAGGACATGCCACCCCCCCCACATTCCTGGCACATGCCACCCCCCCC	81 GCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGCAG 840	Qy db
BUI CIGAGITAGA CARAGAGA CACCATAGA CAGAGA CAG	721 ATACCGGGCCCAGCAGGGTGACACGCGGGCAGTGCGGGAAGATGCTGCTGGTGTGGGT 780	D Qy
GGCCGITGTCTGTGGCCCTCTTAATGCCACGGGAGCCACCCTGGCGAGGAGGCCCTTCCCACGGGAGCCATGGAGGGGCCCTTCCACGGGAGGAGGCCCTTCCAATGCCAGGGAGCCAGCC	AACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTC 720	dg Qy
### GEOGRAPHICAGO CALCANA FROM COOL COOL COLLEGATION CONTROLL COLLEGATION COLL	01 CTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGCTGCACCTCCTC 660	Db Qy
621 GCACTGCTGGAAGTGAGTGGCCCAGGGCCTCCCCTCAGCCCACGCCTCAGCCCAGGCCCAGGCCCAGGCCCAGGCCCAGGCCCAGGCCCAGGCCCAGGCCCAGGCCCAGGCCCAGGCCCAGGCCAGCCAGGCCAGCCCAGGCCAGCCAGGCCAGCCAGGCCAGCCAGGCCAGGCCAGCCAGGCCAGGCCAGCCAGGCCAGCCAGGCCAGCCAGGCCAGCCAGGCCAGCCAGGCCAGCCAGGCCAGGCCAGGCCAGCCAGGCCAGGCCAGCCAGGCAGGAGG	1 CCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGGAC 600 1	D Qy
SOL GENERAL CONTROL OF THE STATE OF THE STAT	1 CGACTCGAGCCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGACTT 540	р <i>Q</i> у
SOL GEOGRAPHICAL CASCAR AND CONTRACT	1 GGCGCTGCTCATCGTGGCCACGGTGCTGGCCAACGCGCTGGTCATGCTCGCCTTCGTGGC 480	dg V
GRECUS CONTROLLES CONT	1 GGCGGCGGGGGGGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTCAT 420	д Qy
381 CGCGCCCTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGAAAAACGTTCCTGCTGCTGATCATCCG	01 GGAGCGCGCCGACCGGCCGCTGAACGCTTCGGGGGCGCTGGCGGCGATGCGGC 360	Db Qy
	41 CCCAGCTCTCGGCCGGCGCCCTGCCCCGCGTCCCGGAGCCGCGTGAGCCTGCGGGGGCCAT 300	Db

•

\$ 8 8	d dy	g Q	Query Best I Matche	ORIGIN	FEATURES Sou				COMMENT	REFERENCE AUTHORS TITLE JOIDNAL	KEYWORDS SOURCE ORGANISM	LOCUS DEFINITION ACCESSION	RESULT 2	D Qy	유 &	g <i>Q</i>	9g 4g
121 CCGCCTGCTCTGGCCCCGGCCCCGGCCCCGCGACCATGCGCTGGGCCCCCCAGGGAA 180	61 GCTGCAGCAGCCGCGCTGCCGGCCCCACTGGGCTCGGATCCGGCCCCGGCCCCCTCGGCA 120	1 CCACGCGTCCGCCGGCTGCACGGTCGCACCGGCAGCGGCTCAGGCTTCCGCCTCTCTCCC 60	Query Match 100.0%; Score 2699; DB 6; Length 2699; Best Local Similarity 100.0%; Pred. No. 0; Matches 2699; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	~~~	rce	,G01N33/15,G01N33/50, PC C12N15/00,A61K37/02,C12N5/00 PC Description of Artificial Sequence: CDNA FH Key Location/Oualifiers	5/28,C07K14/705,C07K16/	PF 07-0CT-1998 JP 2000573370 PI /TIMOTHY W LABENBERG, MARK ERLANDER, ARNE HUBER, JIYAYASYURY PI PIATEI PC C12N15/09.A61K38/00.A61K45/00.A61P3/04.A61P3/10.A61P9/06.PC	ORTHO MCNEIL PHARMACEUTICAL INC OS Artificial Sequence PN JP 2002526049-A/5 PD 20-ANG-2002	The sequences, altitudat sequences. I (bases 1 to 2699) S Labenberg, T. W., Erlander, M., Huber, A. and Piatei, J. Isolated DNA encoding human H3 histamine receptor B Labenberg, T. W., D. 2007556049 A. 5. 20. AMG. 2002.	MS	BD235872 N Isolated DNA encoding BD235872		2641 AACCGTGAGGTCACAATAAAGTGTATTTTTTTTAAAAAAAA	2581 GTGCACCCGTGCCACGCGCTCTGCATGCTCCTCTGCCTGTGCCCGGCTGCGCTGCCCTGCA 2640	2521 CAAGGCGTGCAGGGGGGTCCAGAGGAGGGGGTCCCGGGCAGGGGCCGCTTCGCCATGTGCT 2580	2461 GCTCACCCAGGACCTCTGGGGGTTGTTGGGAGGAGGGGGCCCGGCTGGCCCGAGGGTCC 2520
Qy ob	Q B	S & &	o b Qy	Db Qy	Db Qy	Оу	D Qy	Оу	Qу	D Qy	B &	D Q	Qy dd	Qy Db	da Vo	D &	δ B
	1141 CGTAGGCCGTCCAGCTCCGGGAGGCGCTCCTCGAGGGGACTCGAGGGCGCTCACTCA	1081 CTGGCAGAGGGCACACGGGAGGCCATGCCGCTGCACAGGTATGGGGTGGGGGGGG	1021 CCCCGAGCCCCTCCCGAGGCCCAGCCCTCACCACCCCCACCGCCTGGCTGCTGGGGCTG 1080	961 CTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCCGG 1020	901 GGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCAT 960	841 CTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCAC 900	781 GCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGCAG 840	721 ATACCGGGCCCAGCAGGGTGACACGCGGCGGCAGTGCGGAAGATGCTGCTGGTGTGGGT 780	661 TGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTC 720	601 CTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCCTC 660	541 CCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGGAC 600	481 CGACTCGAGCCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGACTT 540	421 GGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCCTTCGTGGC 480	361 GGCGGCGGGCGCGGCTTCTCGGCAGCCTGGACCGCGTGCTGGCCGCGCTCAT 420			

```
2341
               2341
                                 2281
                                                 2281
                                                                  2221
                                                                                                   2161
                                                                                                                  2161
                                                                                                                                    2101
                                                                                                                                                   2101
                                                                                                                                                                    2041
                                                                                                                                                                                     2041
                                                                                                                                                                                                     1981
                                                                                                                                                                                                                     1981
                                                                                                                                                                                                                                      1921
                                                                                                                                                                                                                                                     1921
                                                                                                                                                                                                                                                                      1861
                                                                                                                                                                                                                                                                                      1861
                                                                                                                                                                                                                                                                                                       1801
                                                                                                                                                                                                                                                                                                                       1801
                                                                                                                                                                                                                                                                                                                                       1741
                                                                                                                                                                                                                                                                                                                                                       1741
                                                                                                                                                                                                                                                                                                                                                                        1681
                                                                                                                                                                                                                                                                                                                                                                                         1681
                                                                                                                                                                                                                                                                                                                                                                                                         1621
                                                                                                                                                                                                                                                                                                                                                                                                                                           1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1321
                                                                                   2221
                                                                                                                                                                                                                                                                                                                                                                                                                         1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                          1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1261
                                                                                                                                   CCTGCACACACCTGCACACCGTCCCCTCTCCCCGGACAAGCCCAGGACACTGCCTTTTGCTG
                                                                                                                                                                                                    GTCTCCTGGGCATCTGGCCCTGCTGCCCCCTACCCGGCTCGTTCCCCCAGGGGTGAGCCC
                                                                                                                                                                                                                                                                                                                                                                                                        TTCTGGGTGTTTTCAGAAAGATGAAGAAGAAAACATGTCTGTGAACTTGATGTTCGTGGG
                                                                                                            CTCTGCCCCAAAAGTGTCAAGGGGCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTCCA
                                                                                                                                                                                                                                                                               CCCACATTCTGGCTCCACCGGGGAGGGACAGTCTGGAGGTCCCAGACATGCTGCCCACCC
                                                                                                                                                                                                                                                                                                                                                CGCCGTGTCTGTGGCCCTCTCTTAATGCCACGGCAGCCACCCTGCCATGGAGGCGCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                         GGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATCCG
        CTCCCACGCCCTCCCTCCCCTAAGGCTTCCGGCTGAGCTGTGCCAGCTGCTTCTGCC
                                                                                                                                                                                                                                                                                                               CGCCGTGTCTGTGGCCCTCTCTTAATGCCACGGCAGCCACCCTGCCATGGAGGCGCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAGGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCGCTGGAGAAGCGCATGAAGATGGTGTC
CTCCCACGCCTCCTCCCTCCGCTAAGGCTTCCGGCTGAGCTGTGCCAGCTGCTTCTGCC
                                                                                                   CTCTGCCCCAAAAGTGTCAAGGGGCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTCCA
                                                                                                                                                                                                                                                                     CCCACATTCTGGCTCCACCGGGGAGGGACAGTCTGGAGGTCCCAGACATGCTGCCCACCC
                                                                                                                                                                                                                                                                                                       GGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTCCT
                                                                                                                                                                                                                                                     1980
                                                                                                                                                                                                                                                                                      1920
                                                                                                                                                                                                                                                                                                                                        1800
                                                                                                                                                                                                                                                                                                                                                       1800
                                                                                                                                                                                                                                                                                                                                                                                         1740
                                                                                                                                                                                                                                                                                                                                                                                                                         1680
                                                                                                                                                                                                                                                                                                                                                                                                                                          1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                         1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1560
2400
               2400
                                2340
                                                                  2280
                                                                                                  2220
                                                                                                                   2220
                                                                                                                                    2160
                                                                                                                                                   2160
                                                                                                                                                                    2100
                                                                                                                                                                                    2100
                                                                                                                                                                                                     2040
                                                                                                                                                                                                                    2040
                                                                                                                                                                                                                                      1980
                                                                                                                                                                                                                                                                      1920
                                                                                                                                                                                                                                                                                                      1860
                                                                                                                                                                                                                                                                                                                       1860
                                                                                                                                                                                                                                                                                                                                                                        1740
                                                                                                                                                                                                                                                                                                                                                                                                         1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1320
                                                 2340
                                                                                                                                               S
밁
         5
                              문
                                           Ş
                                                                밁
                                                                            δ
                                                                                                 문
                                                                                                               á
                                                                                                                                   밁
                                                                                                                                                                밁
                                                                                                                                                                                 5
                                                                                                                                                                                                    밁
                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               유성유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
```

성 유

δ 밁 5 밁 Ş 밁 Ş 밁 Ş 밁

Ţ

В S В δ B Ś В δ 뫄 δ 뫄 δ 뭐 Ş В Ś 밁 Ś 밁 Ş 밁 Ş 밁 Ś 밁

361

```
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 3
AR217194
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
AUTHORS
— TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                              ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Simi
Matches 2699;
                                                                                                                                                                                                                                                                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                          JM Unknown.

Unclassified.

E 1 (bases 1 to 2699)

E Lovenberg, T. W., Erlander, M., Huvar, A. and Pyati, J.

S Lovenberg a human histamine receptor of the H3

DNA encoding a human histamine receptor of the H3

Patent: US 6413743-A 5 02-UUL-2002;

Location/Qualifiers

2699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2401
                    361
                                              301
                                                                     301
                                                                                           241
                                                                                                                 241
                                                                                                                                        181
                                                                                                                                                                181
                                                                                                                                                                                       121
                                                                                                                                                                                                              121
                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AR217194
Sequence 5
AR217194
AR217194.1
                                                                                                                                                                                                                                                                                                         Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Unknown
                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                    GCGGCGGGCGGGCGCGCCTCTCTCGGCAGCCTGGACCGCGCTGCTGGCCGCGCTCAT
            GGCGGCGGGCGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCCTCAT
                                                          CCCAGCTCTCGGCCGCGCGCCCCGCGTCCCGGAGCCGCGTGAGCCTGCGGGGCCAT
                                                                                                         CCCAGCTCTCGGCCGGCGCCCTGCCCCGGCGTCCCGGAGCCGCGTGAGCCTGCGGGGCCAT
                                                                                                                                                        ACCCGACCCGGCCAAGGGCCCGCAAAGACGAGGCTCCCGGGCCCGGGCCCCCTCCCGGCCG
                                                                                                                                                                                                      CCGCCTGCTCTGGCCCCGGCCCCGGGCCCCGCGGACCATGCGCTGGGCCCCCCAGGGGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTGCACCCGTGCCACGCGCTCTGCATGCTCCTCTGCCCTGTGCCCGCTGCGCCTGCCCTGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAAGGCGTGCAGGGGCCCAGAGAGGAGGTGCCCCGGGCAGGGGCCGCCTTCGCCATGTGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCTCACCCAGGACCTCTGGGGGGTTGTTGGGAGGAGGGGGCCCGGGCTGGGCCCGAGGGTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCCGACCCGGCCAAGGGCCCGCAAAGACGAGGCTCCCGGGGCCCGGGGCCCCTCCCGGCCG
                                                                                                                                                                                        CCGCCTGCTCTGGCCCCGGCCCCGGCGGGACCATGCGCTGGGCGCCCCAGGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTGCACCCGTGCCACGCGCTCTGCATGCTCCTCTGCCTGTGCCCGCTGCGCTGCCCTGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAAGGCGTGCAGGGGCGGTCCAGAGGAGGTGCCCGGGCAGGGGCCGCTTCGCCATGTGCT
                                                                                                                                                                                                                                                                                                                                100.0%;
ilarity 100.0%;
Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                      /organism="unknown"
/mol_type="genomic |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GI:23316634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2699 bp
patent US 6413743.
                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                               Score 2699;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DNA
                                                                                                                                                                                                                                                                                                                                                        DB
                                                                                                                                                                                                                                                                                                                                                        6
                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                   H. J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PAT
                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      25-SEP-2002
                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                              180
                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2460
                       420
                                              360
                                                                     360
                                                                                            300
                                                                                                                    300
                                                                                                                                          240
                                                                                                                                                                  240
                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                                           6
                                                                                                                                                                                                                                                                                                                                 0
```

541 CCTCOTCGGGCCCTTCTGGAACTCTGTATGTACCCTACGTGCTGACAGGCCTTGACCTGGCTGACTCTGACTCTGCTGGCTG	GGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTGGC
1681 1681 1741 CG 1861 CG CG CG CG CG CG CG C	Oy 1501 GTGGGCCAACTCGGCTGTCCACCCTGTCCTCTACCCTCTGTGCCACACAGCTTCCGCCG 1560

Oy 361 GGCGGCGGGGGGGGGGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTCAT 420	Db 181 ACCCGACCCGGCCAAAGGCCCCGCAAAAGACCGCCCCGGGCCGCC	CANGE CALCES CONTROL ACCES CANGES CONTROL AGE CANGES CONTROL FOR A CONTROL CONTRO	Query Match 100.0%; Score 2699; DB 6; Length 2699; Best Local Similarity 100.0%; Pred. No. 0; Best Local Similarity 100.0%; Pred. No. 0; Matches 2699; Conservative 0; Mismatches 0; Indels 0; Gaps 1 CCACGCGTCCGCCGGCTGCACGGTCGCACCGGCTCAGGCTCCGGCTCCTCTCC 6	(GPCRS), antibodies thereto, and systems for identifying santigenic peptides NAL Patent: WO 02061087-A 548 08-AUG-2002; Lifespan Biosciences, Inc. (US) ES Location/Qualifiers ource 1. 2699 /organism="Homo sapiens" /mol type="unassigned DNA" /db_xref="taxon:9606"	AX549263 N Sequence 548 from Patent W00206108 N XX549263.1 GI:25813942 Homo sapiens (human) Homo sapiens (buman) M Homo sapiens (Chordata; Crar Eukaryota; Metazoa; Chordata; Crar Mammalia; Eutheria; Primates; Cata 1 Burmer, G.C., Roush, C.L. and Brown, Antigenic neptides, such as for G.	Db 2581 GTGCACCGTGCCACGCGCCTCTGCATGCTCCTCTGCCTGTGCCCCGCGCGCG
Q B Q B Q B Q	7 P Q D Q D	& p & p &	p Q p Q	QQ QQ QQ	Q	Q & Q & Q
1441 GGCCGCCTGCCATGCCACTGCGTCCCTGACTACTGGTACCAAAACCTCCTTCTGGCTCCT 1500	61 GAGGGCTTCAAGCCGTCGGCGTCCTCGGCCTCGCTGGAGAAGCGCATGAAGATGGTGTC 21 CCAGAGCCTTCACCCAGCCGTTTTCGGCTGTCTCCGGGACAAGCGCAAAGTGGCCAAGTCGCTGGC 21 CCAGAGCTTCACCCAGCGCTTTTCGGCTGTCTCCGGGACAGGAAAGTGGCCAAGTCGCTGGC 21 CCAGAGCTTCACCCAGCGCTTTTCGGCTGTTCTCGGGACAGGAAAGTGGCCAAGTCGCTGGC 21 CCAGAGCTTCACCCAGCGCTTTTCGGCTGTTCTCGGGACAAGTACACGCTGCTGATGATCATCCG 81 CGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATCCCG [1141 CGTAGGCGCTGAGGCCGGGAGGCGACCCTCGGGGGTGGCGGTGGGGGCTCCGTGGC 1200	1021 CCCCGAGCCCCCTCCCGAGGCCCAGCCCTCACCCCACCC	841 CTCCATCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTCCTCAGCAC 900 901 GGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTCTCTTAACCTCAGCAT 960 901 GGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCAT 960 901 GGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCAT 960 961 CTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGAGTGGGGCTCGAGAGGCAGCCGG 1020 961 CTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGGCTCGAGAGGCAGCCGG 1020	661 TGCCTTCAACATCGTGCTCATCAGCTACGGCTTCCTGTCCGGTCACCCGAGCGGTCCC 720 721 ATACCGGGCCCAGCAGCAGGTTGACACGCGGCGGCGGCAGTGCGGAAGATGCTGCTGTGGGT 780 721 ATACCGGGCCCAGCAGGAGGTGACACGCGGCGGGCAGTGCGGAAGATGCTGCTGTGTGGGT 780 721 ATACCGGGCCCAGCAGGTGACACGCGGCGGGCAGTGCGGAAGATGCTGCTGGTGTGGGT 780 781 GCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGCAG 840 781 GCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGCAG 840 781 GCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGCAG 840 841 CTCCATCCCGGAGGGCCACCTACCAGCCATCTTCTACAACTGGTACTTCCTCATCAC 900	541 CCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGGAC 600

```
밁
                    δ
                                              밁
                                                              δ
                                                                                     밁
                                                                                                              S
                                                                                                                                          밁
                                                                                                                                                            Ş
                                                                                                                                                                                        ₽
                                                                                                                                                                                                          5
                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                          ક
                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                 문
                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                     2581
                                                                                            2521
                                                                                                                                           2461
                                                                                                                                                                 2461
                                                                                                                                                                                         2401
                                                                                                                                                                                                                 2401
                                                                                                                                                                                                                                        2341
                                                                                                                                                                                                                                                                2341
                                                                                                                                                                                                                                                                                       2281
                                                                                                                                                                                                                                                                                                                                       2221
                                                                                                                                                                                                                                                                                                                                                               2221
                                                                                                                                                                                                                                                                                                                                                                                       2161
                                                                                                                                                                                                                                                                                                                                                                                                               2161
                                                                                                                                                                                                                                                                                                                                                                                                                                        2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                              2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1621
                                             2581
                                                                                                                    2521
                                                                                                                                                                                                                                                                                                               2281
                                                                                                                                                       GCTCACCCAGGACCTCTGGGGGTTGTTGGGAGGAGGGGGCCCGGCTGGGCCCGAGGGTCC
                                                             GTGCACCCGTGCCACGCGCTCTGCATGCTCTCTGCCTGTGCCCGCTGCGCTGCCCTGCA
                                                                                                          CAAGGCGTGCAGGGGCGGTCCAGAGGAGGTGCCCGGGCAGGGGCCCGCTTCGCCATGTGCCT
                                                                                                                                                                                           CACCCCGCCTCTGGGCTCACACCAGCCCTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTT
                                                                                                                                                                                                      CACCCCGCCTCTGGGCTCACACCAGCCCTGGTGGCCAAGCCTTGCCCCCGGCCACTCTGTTT
                                                                                                                                                                                                                                                       CTCCCACGCCCTCCCTCCGCTAAGGCTTCCGGCTGAGCTGTGCCCAGCTGCTTCTGCC
                                                                                                                                                                                                                                                                                                        ATGTTTAATCAAGAGAGACAAAATTGCTGAGGAGCTCAGGGCTGGATTGGCAGGTGTGGG
                                                                                                                                                                                                                                                                                                                                                     TTCTGGGTGTTTTTCAGAAAGATGAAGAAGAAAAACATGTCTGTGAACTTGATGTTCGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                        CTCTGCCCCCAAAAGTGTCAAGGGGCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                       CCTTCTGTCTCTTGCATAAGCCTCAGGCCTGGCCCTTTCACCCCTCTTTCCCCACCAACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCTTCTGTCTCTTGCATAAGCCTCAGGCCTTGGCCCTTTCACCCCTCTTCCCCACCACCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCTGCACACACCTGCACACCGTCCCTCTCCCCCGGACAAGCCCAGGACACTGCCTTTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTGTGCTCCAGGCTTCCTGCCCTAGCAGTTTGCCTCTGCACGTGCACACACCCTGCACACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCCACATTCTGGCTCCACCGGGGAGGGACAGTCTGGAGGTCCCAGACATGCTGCCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCCGTGTCTGTGGCCCTCTCTTAATGCCACGGCAGCCACCCTGCCATGGAGGCGCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTCTCCTGGGCATCTGGCCCCTGCTGCCCCTACCCGGCTCGTTCCCCCAGGGGTGAGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTCTCCTGGGCATCTGGCCCCTGCTGCCCCTACCCGGCTCGTTCCCCCCAGGGGTGAGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAAGGCGTGCAGGGGCCCAGAGGAGGTGCCCGGGCAGGGGCCGCTTCGCCATGTGCT
                                                                                                                                           GCTCACCCAGGACCTCTGGGGGGTTGTTGGGAGGAGGGGGCCCGGGCTGGGCCCGAGGGTCC
                                                                                                                                                                                                                                        CTCCCACGCCTCCTCCCTCCGCTAAGGCTTCCGGCTGAGCTGTGCCAGCTGCTTCTGCC
                                                                                                                                                                                                                                                                                       ATGTTTAATCAAGAGAGACAAAATTGCTGAGGAGCTCAGGGCTGGATTGGCAGGTGTGGG
                                                                                                                                                                                                                                                                                                                                                                                       CTCTGCCCCAAAAGTGTCAAGGGGCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCTGCACACCCTGCACACCGTCCCTCTCCCCGGACAAGCCCAGGACACTGCCTTTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTGTGCTCCAGGCTTCCTGCCCTAGCAGTTTGCCTCTGCACGTGCACACACCTGCACACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCCACATTCTGGCTCCACCGGGGAGGGACAGTCTGGAGGTCCCAGACATGCTGCCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCCGTGTCTGTGGCCCTCTTTAATGCCACGGCAGCCACCCTGCCATGGAGGCGCCTTC
                      rcagaaagatgaagaaaaacatgtctgtgaacttgatgttcgtggg
                      2699
2699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1740
                                                                     2640
                                                                                                                                                                                         2460
                                                                                                                                                                                                                2460
                                                                                                                                                                                                                                                                                                                                       2280
                                                                                                                                                                                                                                                                                                                                                                                       2220
                                              2640
                                                                                            2580
                                                                                                                   2580
                                                                                                                                          2520
                                                                                                                                                                 2520
                                                                                                                                                                                                                                        2400
                                                                                                                                                                                                                                                                2400
                                                                                                                                                                                                                                                                                       2340
                                                                                                                                                                                                                                                                                                               2340
                                                                                                                                                                                                                                                                                                                                                               2280
                                                                                                                                                                                                                                                                                                                                                                                                             2220
                                                                                                                                                                                                                                                                                                                                                                                                                                       2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                              2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1740
```

RESULT 5

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AF140538
LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                       S
S
                                                       밁
                                                                                                        Ş
                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                     문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 2699; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  source
  361
                                                       301
                                                                                                              301
                                                                                                                                                                     241
                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 2699)
1 (compared to 2699)
1 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ш
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Submitted (05-APR-1999) Molecular Pharmacology, RU
3535 General Atomics Ct, San Diego, CA 92121, USA
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AF140538
Homo sapiens histamine
AF140538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 (bases 1 to 2699)
Lovenberg, T.W., Roland, B.R., Wilson, S.J.,
Huvar, A., Jackson, M.R. and Erlander, M.E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             receptor
Mol. Pharmacol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AF140538.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99278519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         10347254
                                                    CCCAGCTCTCGGCCGCCCTGCCCCGCGTCCCGAGCCGCGAGCCTGCGGGGGCCAT
                                                                                                                                                                                                        CCCAGCTCTCGGCCGGCGCCCCTGCCCCGCGTCCCGGAGCCGCGTGAGCCTGCGGGGCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                         CCGCCTGCTCTGGCCCCGGCCCCGGCCCCGCGGACCATGCGCTGGGCGCCCCCAGGGGAA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCTGCAGCAGCCGCCTGCCGGCCCCACTGGGCTCGGATCCGGCCCCCGGCCCCCTCGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCACGCGTCCGCCGGCTGCACGGCTCCGCACCGGCTCAGGCTCCGGCTCCTCTCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCTGCAGCAGCCGCCTGCCGGCCCCACTGGGCTCGGATCCGGCCCCCGGCCCCCTCGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCACGCGTCCGCCTGCACGGTCGCACCGGCAGCGGCTCAGGCTCCGGCTCCTCTCCC
GGCGGCGGGCGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTCAT
                                                                                                                                                                                                                                                                                   ACCCGACCCGGCCAAGGGCCCGCAAAGACGAGGCTCCCGGGCCGGGGGCCCCTCCCGGCCG
                                                                                                                                                                                                                                                                                                                                       ACCCGACCCGGCCAAGGGCCCGCAAAGACGAGGCTCCCGGGCCGGGCCCCTCCCGGCCG
                                                                                                                                                                                                                                                                                                                                                                                               CCGCCTGCTCTGGCCCCGGCCCCGGCCGGACCATGCGCTGGGCGCCCCCAGGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%; ilarity 100.0%; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /product="histamine H3 receptor"
/product="histamine H3 receptor"
/product="histamine H3 receptor"
/prodein_id="AAD38151.1"
/db_xref="foi:5031291"
/translation="MERAPPDGPLNASGALAGDAAAAGGARGESAAWTAVLAALMALL
/translation="MERAPPDGPLNASGALAGDAAAAGGARGESAAWTAVLAALMALL
/translation="MERAPPDGPLNASGALAGDAAAAGGARGESAAWTAVLAALMALL
/translation="MERAPPDGPLNASGALAGDAAAAAAGAGDTREAVRWLLW
/TVATVLGNALISWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFN
VLAFILWGPAILSWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFN
VLAFILWGPAILSWEYLSGGSSIPEPPAQPSPPPGCWGCWGCHGEAWFLHYG
VGEAAVGAEAGEATLGGGGGGSVASPTSSGSSSRGTERFRSLKRGSKPSASSASIE
KRMKNVSQSFTQRFRLSEDRKVAKSLAVIVSIFGLCWAEYTLLMIIRAACHGHCVPDY
WYETSFWLLWANSAVNPVLYPLCHHSFRRAFTKLLCPQKLKIQPHSSLEHCWK"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .2699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GI:5031290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             55 (6), 1101-1107 (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 2699;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2699
H3 rec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ďď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  mRNA
mRNA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  linear
complete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Jiang,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ×
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ₽¥
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pyati,J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRI 10-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRI,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                              360
                                                                                                                                                                     300
                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
```

1441 GGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTCCT 1500	1381 CGTCATCGTGAGCATCTTTGGGCTCTGGGCCCCATACACGCTGCTGATGATCATCCG 1440	1321 CCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTGGC 1380	1261 GAGGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCGAGAAAGCGCATGAAGATGGTGTC 1320	TTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCTCACTCA	1141 CGTAGGCGCTGAGGCCGGGGGGGCGACCCTCGGGGGTGGCGGTGGGGGGCTCCGTGGC 1200		1021 CCCCGAGCCCCCTCCCGAGGCCCAGCCCTCACCACCCCCACCGCCTGGCTGCTGGGGCTG 1080	CTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCCGG	901 GGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCAT 960	841 CTCCATCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCAC 900	GCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGCAG	721 ATACCGGGCCCAGCAGGTGACACGCGGCGGCAGTGCGGAAGATGCTGCTGTGTGTG	661 TGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTC 720	601 CTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCCTC 660	541 CCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGGAC 600	481 CGACTCGAGCCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGACCTT 540	GGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTGGC	
Qy 25 Db 25	Qy 24 Db 24	Qy 24			Qy 22 Db 22		Qy 2101 Db 2101	Qy 20 Db 20	Qy 19 Db 19				Qy 1741 Db 1741	,				Db 14
2521 CAAGGCGTCCAGGGGCGGTCCAGAGGAGGTGCCCGGGCAGGGGCCGCTTCGCCATGTGCT 2580	GCTCACCCAGGACCTCTGGGGGTTGTTGGGAGGAGGGGCCCGGCTGGGCCCGAGGGTCC 25	2401 CACCCGCCTCTGGGCTCACACCAGCCTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTT 2460	CTCCCACGCCTCCTCCCTCCGCTAAGGCTTCCGGCTAACTGTGCCAGCTGCTTCTGCC	ATGTTTAATCAAGAGAGACAAAATTGCTGAGGAGCTCAGGGCTGGATTGGCAGGTGTGGG 2	2221 TTCTGGGTGTTTTCAGAAAGATGAAGAAAAAACATGTCTGTGAACTTGATGTTCGTGGG 2280 	CTCTGCCCCCAAAAGTGTCAAGGGGCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTCCA 2		2041 CCTGCACACACCTGCACACCGTCCCTCTCCCCGGACAAGCCCAGGACACTGCCTTTGCTG 2100	1981 GTGTGCTCCAGGCTTCCTGCCCTAGCAGTTTGCCTCTGCACGTGCACACACCTGCACACC 2040	1921 CCTGCTGGTGCCCACCTTCGCAGTTACTGGTTGGTGTTCTTCCCAAAGCAACCACCTGG 1980	CCCACATTCTGGCTCCACCGGGAGGACAGTCTGGAGGTCCCAGACATGCTGCCCACCC 19		GCCGTGTCTGTGGCCCTCTCTTAATGCCACGGCAGCCACCCTGCCATGGAGGCGCCTTC 18	TOTOCTIGGGCATCTIGGCCCTGCTGCCCCTACCCGGCTCGTTCCCCCAGGGGTAGGCCC 17	GCACTGCTGGAAGTGAGTGGCCCACCACAGAGCCTCCTCAGCCAGGCCTCTCTCAGCCCAG	GGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTGGA 16 GGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTGGA 16	GTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACACACGCTTCCGCCG 1	1441 GGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTCCT 1500

565 ACTGTATGTACCCTACGTGCTGACAGGCCGCTGGACCTTCGGCCGGGGCCTCTGCAAGCT 624	505 CAACTTCTTCCTGCTCAACCTCGCCATCTCCGACTTCCTCGTCGGCGCCTTCTGCATCCC 564	445 GCTGGGCAACGCGCTGGTCATGCTCGCCGTGGCCGACCTCCGCACCAGAA 504	385 CTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTCATGGCGCTCATCGTGGCCACGGT 444	325 GCTGAACGCTTCGGGGGGGGGGGGGGGGGGGGGGGGGGG	265 CCCGCGTCCCGGAGCCGCGTGAGCCTGCGGGGCCATGGAGCGCGCCGGCCG	205 AAGACGAGGCTCCCGGGCCCCTCCCGGCCGCCCCAGCTCTCGGCCGGC	145 GCCCCGCGGACCATGCGCTCGGGCCCCCAGGGGAAACCCCGACCCGGCCAAGGGCCCGCA 204	85 CCACTGGGCTCGGATCCGGCCCCGGCCCCTCGGCACCGCTCTGGCCCCGGCCCCG 144	25 CGCACCGGCAGCGGCTCAGGCTCCCGCTCCCGCTGCAGCAGCCGCCTGCCGGCC 84	Qy Query Match 97.6%; Score 2635.2; DB 6; Length 2689; Best Local Similarity 99.8%; Pred. No. 0; Matches 2659; Conservative 0; Mismatches 3; Indels 2; Gaps 2;	rce	TITLE Methods for detecting nucleic acid molecules encoding a member of Qy the muscarinic family of receptors JOURNAL Patent: US 6093545-A 1 25-UUL-2000; EATURES Location/Oualifiers	3	AR104201 AR104201.1 GI:12816909		
1645 CCAGAGCCTCCTCAGCCACGCCTCTCTCAGCCCAGGTCTCCTGGGCATCTGGCCCTGCT 1704	577 CCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTGGAGCACTGCTGGAAGTGAGTG			THE THE TENSOR CONTROL OF THE TENSOR OF THE	GCTGTCTCGGGACAGGAAAGTGGCCAAGTCGTCGCCGCCGCGCGATGCCGATGCCGA		223 LICLI GANGGOGAL ISMGANGGUCGUGLI CACILIMANGGOGGU LICHANGCUG ICGGOGICI LICHANGCUG ICGGOGICI CACILIMANGGOGGUCT CAAGAGAGAGAGACTCCAAGAGAGAGCCGTCGGCGTC 217 CTCCTCGAGGGGCACTGAGAGAGGCCGTCGACCGTCGGCGTC CAAGAGAGGGCCTCCAAGCCGTCGGCGTC			1045 GCCTCACCACCCCCACCCGCTGGCTGCTGGGGCTGCTGGCAGAAGGGGACGGGAGGC 1104	985 CCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCCGGCCCCGAGCCCCTCCCGAGGCCCA 	925 GCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCATCTACTGAACATCCAGAGGCCAC 984	865 TGCCGAGTTCTTCTACAACTGGTACTTCCTCATCACGGCTTCCACCCTGGAGTTCTTAC 924	805 AGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGCAGCTCCATCCCCGAGGGCCACTGCTA 864	685 CTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTCATACCGGGCCCAGCAGGGTGACAC 744	625 GTGGCTGGTAGTGGACTACCTGCTGTGCACCTCCTCTGCCTTCAACATCGTGCTCATCAG 684

```
RESULT 7
BD086285
 rocus
                                                                                    Ś
                                                                                                                밁
                                                                                                                                  δ
                                                                                                                                                            밁
                                                                                                                                                                                     δ
                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                2656
                                                                                                                 2596
                                                                                                                                          2605
                                                                                                                                                                    2536
                                                                                                                                                                                             2545
                                                                                                                                                                                                                       2476
                                                                                                                                                                                                                                               2485
                                                                                                                                                                                                                                                                         2416
                                                                                                                                                                                                                                                                                                2425
                                                                                                                                                                                                                                                                                                                         2356
                                                                                                                                                                                                                                                                                                                                                   2365
                                                                                                                                                                                                                                                                                                                                                                            2296
                                                                                                                                                                                                                                                                                                                                                                                                    2305
                                                                                                                                                                                                                                                                                                                                                                                                                              2236
                                                                                                                                                                                                                                                                                                                                                                                                                                                       2245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2005
 BD086285
                                                                                                                                                                                                                                                                                    GCCCTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTTGCTCACCCAGGACCTCTGGGGGTT
                                                                                                                                                                                                                                                                                                                                        AAGGCTTCCGGCTGAGCTGTGCCAGCTGCTTCTGCCCACCCCGCCTCTGGGCTCACACCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCAGTTTGCCTCTGCACGTGCACACACCTGCACACCCCTGCACACACCCTGCACACCCTGCACACCCTGCACACCCTGCACACCCTGCACACACCCTGCACACACCCTGCACACACCCTGCACACACCCTGCACACACCCTGCACACACCCTGCACACACCCTGCACACACCCTGCACACACCCTGCACACACCCTGCACACACCACCTGCACACACCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ecceceracecegerecerrececeagegereagececegecerereregececrerera
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCCCCTACCCGGCTCGTTCCCCCAGGGGTGAGCCCCGGCCGTGTCTGTGGCCCTCTCTTA
                                                                                                                                 ATGCTCCTCTGCCTGTGCCCCGCTGCGCCCTGCAAACCGTGAGGTCACAATAAAGTGT
                                                                                                                                                                    GGAGGTGCCCGGGCAGGGGCCGCTTCGCCATGTGCTGTGCACCCGTGCCACGCGCTCTGC
                                                                                                                                                                                 GGAGGTGCCCGGGCAGGGGCCGCTTCGCCATGTGCTGCACCCGTGCCACGCGCTCTGC
                                                                                                                                                                                                                                   GTTGGGAGGGGGCCCGGCTGGGCCCGAGGGTCCCAAGGCGTGCAGGGGCGGTCCAGA
                                                                                                                                                                                                                                                                         GCCCTGGT
                                                                                                                                                                                                                                                                                                                                                                                          AGAAGAAAACATGTCTGTGAACTTGATGTTCGTGGGATGTTTAATCAAGAGAGACAAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTCCATTCTGGGTGTTTTCAGAAAGATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCCCTAGGAACCTCGAAGCTGTTCTCTGCCTTTTCCATTCTGGGTGTTTTTCAGAAAGATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTCTCCCCGGACAAGCCCAGGACACTGCCTTTGCTGTCTCTTTTGCATAAGCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTCTCCCCGGACAAGCCCAGGACACTGCCTTTGCTGCCTTCTGTCTCTTGCATAAGCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTACTGGTTGGTGTTCTTCCCAAAGCAAGCACCTGGGTGTGCTCCAGGCTTCCTGCCCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGGACAGTCTGGAGGTCCCAGACATGCTGCCCACCCCCTGCTGGTTGCCCACCCCTTCGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTGGCTGGACTGGAGGCTGGGTGGCCGGCCCTGCCCCCCACATTCTGGCTCCACCGGGGA 1884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATGCCACGCAGCCACCCTGCCATGGAGGCGCCTTCCTGGGTTGGCCAGAGGGCCCCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGCCACGGCAGCCACCCTGCCATGGAGGGGCCCTTCCTGGGTTGGCCAGAGGGCCCCTCA 1824
                                                                ATTTTTTAAAAAAAAAAAAAAAAA
                                                                              ATTTTTTTAAAAAAAAAAAAAAAAAA 2688
                                                                                                                                                                                                                       GTTGGGAGGAGGGGCCCGGCTGGGCCCCGAGGGTCCCAAGGCGTGCAGGGGGGGCGGTCCAGA
                                                                                                                                                                                                                                                                                                                         AAGGCTTCCGGCTGAGCTGTGCCAGCTGCTTCTGCCCACCCCGCCTCTGGGCTCACACCA
                                                                                                                                                                                                                                                                                                                                                                            TGCTGAGGAGCTCAGGGCTGGATTGGCAGGTGTGGGCTCCCACGCCCTCCTCCCCTCCGCT
                                                                                                                                                                                                                                                                                                                                                                                                                               AGAAGAAAACATGTCTGTGAACTTGATGTTCCTGGGATGTTTAATCAAGAGAGACAAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCAGTTTGCCTCTGCACGTGCACACCTGCACACCCCTGCACACCTGCACACCGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTACTGGTTGGTGTTCTTCCCAAAGCAAGCACCTGGGTGTGCTCCAGGCTTCCTGCCCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGGACAGTCTGGAGGTCCCAGACATGCTGCCCACCCCTGCTGGTGCCCACCCTTCGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTGGCTGGACTGGAGGCTGGGCCGGCCCTGCCCCACATTCTGGCTCCACC-GGGA
                                                                                                                  ATGCTCCTCTGCCTGTGCCCGCTGCGCTGCAAACCGTGAGGTCACAATAAAGTGT
 2689
                                                                2679
ď
 DNA
 linear
 PAT
 27-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       . 1764
                                                                                                                                         2664
                                                                                                                                                                                                                       2535
                                                                                                                                                                                                                                                                                                2484
                                                                                                                                                                                                                                                                                                                         2415
                                                                                                                                                                                                                                                                                                                                                   2424
                                                                                                                                                                                                                                                                                                                                                                                                      2364
                                                                                                                                                                                                                                                                                                                                                                                                                                                      2304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1935
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1816
                                                                                                                  2655
                                                                                                                                                                    2595
                                                                                                                                                                                             2604
                                                                                                                                                                                                                                               2544
                                                                                                                                                                                                                                                                        2475
                                                                                                                                                                                                                                                                                                                                                                            2355
                                                                                                                                                                                                                                                                                                                                                                                                                              2295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2055
                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                       망
                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                            ş
                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                Ś
                              5
                                                        밁
                                                                                 5
                                                                                                                밁
                                                                                                                                  5
                                                                                                                                                                  밁
                                                                                                                                                                                        5
                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 2659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2659;
              497
                                      505
                                                              437
                                                                                        445
                                                                                                                 377
                                                                                                                                         385
                                                                                                                                                                    317
                                                                                                                                                                                             325
                                                                                                                                                                                                                       257
                                                                                                                                                                                                                                               265
                                                                                                                                                                                                                                                                         197
                                                                                                                                                                                                                                                                                                205
                                                                                                                                                                                                                                                                                                                         138
                                                                                                                                                                                                                                                                                                                                                   145
                                                                                                                                                                                                                                                                                                                                                                                                    85
                                                                                                                                                                                                                                                                                                                                                                                                                              18
                                                                                                                                                                                                                                                                                                                                                                            78
                                                                                                                                                                                                                                                                                                                                                                                                                                                       25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ANDREW D J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 (bases 1 to 2689)
Goodearl,A.D.J., Glucksmann,A.M., Xie,M. ar
G protein-coupled receptor and utilization
Patent: JP 2001525174-A 1 11-DEC-2001;
MILLENNIUM PHARMACEUTICALS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               G protein-coupled receptor BD086285 BD086285.1 GI:22631895 JP 2001525174-A/1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      unidentified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      88888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PR PR SS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         unclassified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                       GCCCCGCGGACCATGCGCTGGGCGCCCCCAGGGGAAACCCGACCCGGCCAAGGGCCCGCA
                             CAACTTCTTCCTGCTCAACCTCGCCATCTCCGACTTCCTCGTCGGCGCCCTTCTGCATCCC
                                                                              GCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTGGCCGACTCGAGCCTCCGCACCCAGAA
                                                                                                                                    CTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTCATGGCGCTGCTCATCGTGGCCACGGT
                                                                                                                                                                  CCACTGGGCTCGGATCCGGCCCCGGCCCCTCGGCACCGCCTGCTCTGGCCCCGGCCCCG
                                                                                                                                                                                                                                                                                                                                                                                          CCACTGGGCTCGGATCCGGCCCCGGCCCCTCGGCACCGCCTGCTCTGGCCCCGGCCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                               CGCACCGGCAGCGGCTCAGGCTCCGGCTCCTCCCCGCTGCAGCAGCCGCCGCTGCCGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                           CGCACCGGCAGCGGCTCCAGGCTCCGGCTCCTCCCCGCTGCAGCAGCCGCGCGCTGCCGGCC
                CAACTTCTTCCTGCTCAACCTCGCCATCTCCGACTTCCTCGTCGGCGCCTTCTGCATCCC
                                                                GCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTGGCCGACTCGAGCCTCCGCACCCAGAA
                                                                                                                  CTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTCATGGCGCTCATCGTGGCCACGGT
                                                                                                                                                                                                                                                                                                 97.6%;
ilarity 99.8%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C12N15/09,C07K14/705,C07K16/28,C12N5/10,C12P21/02,C12Q1/68//(C12P21/02,C12R1:91),C12N15/00,C12N5/00
Strandedness: Single;
Topology: Linear;
G protein-coupled receptor and utilization thereof FH Key Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             04-DEC-1998 JP 2000523346
04-DEC-1997 US 08/985090,17-MAR-1998 US
W D J GOODEARL,ALEXANDRA M GLUCKSMANN,MICHAEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Unidentified
JP 2001525174-A/1
11-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
1. .2689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="unidentified"
/mol_type="genomic DNA"
/db_xref="taxon:32644"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             291.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 2635.2;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .1625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     utilization
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               υ
••
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    and Distefano,
on thereof
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     thereof
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              09/042780
XIE, PETER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PI
```

144

137

84

2

77

564 496 504 436 444 376 384 316 324 256 264

8 8 8 8 8 8

65 CCCTGACTACTGGTACGAAACCTCCTTCTGGTCCTGTGGGCCAACTCGGCTGTAACCC 1524	1345 GCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTGGCCGTCATCGTGAGCATCTTTGGGCT 1404	CTCCTCGAGGGCACTGAGAGGCCGCGCTCACTCAAGAGGGGCTCCAAGCCGTCGGCGTCGCGTCGCTCGC	QY 105 CATGCCGCTGCACAGGTATGGGGTGAGGCGGCGTAGGCCGCTGAGGCCGGGGAGGC 1164	985 CCGCCTCCGGCTGGATGGGGCTCGAGAGGCCAGCCCCGAGCCCCCTCCCGAGGCCCCA 1044	865 TGCCGAGTTCTTCTACAACTGGTACTTCCTCATCACGGCTTCCACCCTGGAGTTCTTTAC 924	745 GCGGCGGCAGTGCGGAAGATGCTGCTGGTGTGGGTGTGGCTGGC	625 GIGGETIAGIGGACTIACCIGETIGIGEACCITCCACATGGTGCTCATCAG 684 617 GTGGCTGGTAGTGACCTGCTGTGCACCTCTCTACACATCGTGCTCATCAG 684 617 GTGGCTGGTAGCTGCTGTGCACCTCCTCTGCCTTCAACATCGTGCTCATCAG 676 685 CTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTCATACCGGGCCCAGCAGGATGACAC 744 687 CTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTCATACCGGGCCCAGCAGGGTGACAC 736 677 CTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTCATACCGGGCCCAGCAGGGTGACAC 736 678 CTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTCATACCGGGCCCAGCAGGGTGACAC 736 679 CTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTCATACCGGGCCCAGCAGGGTGACAC 736 670 CTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTCATACCGGGCCCCAGCAGGGTGACAC 736	ACTGTATGTACCCTACGTGCTGACAGGCCGCTGGACCTTCGGCCGGGGGCCTCTGCAAGCT
	2425 GCCTTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTTGCTCACCCAGGACCTCTGGGGGTT 2484	2305 TGCTGAGGAGCTCAGGGCTGGATTGGCAGGTGTGGGCTCCCACGCCTCCCTC	2185 GCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTCCATTCTGGGTGTTTTCAGAAAGATGA 2244		936 TTACTGGTTGGTGCTCCCAAAGCAACCTGCACACCCTGCACACACCTGCACACACCGTCC 936 TTACTGGTTTGGTTCCTTCCCCAAAGCAACCTGGGTGTGCTCCAGGCTTCCTGCCCTA 936 GCAGTTTGGCTGCTGCACGTGCACACACCTGCACACCCTGCACACACCGTCC 956 GCAGTTTGCCTCTGCACGTGCACACACCTTGCACACACCCTTGCACACACCGTCC 996 GCAGTTTGCCTCTGCACGCACACACCTTGCACACCCTTGCACACACCTTCCACACACCGTCC	TTACTTCCTGGAGGTTCTTCCCCAAAGCAACCACCTTGCGTTGCTTCCTTC	1825 CTGGGTTGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG	

, Qy		g Q	gg Qg	Qy Db	QQ dD	g Q	Qy db	Db Qy	₽ <i>Q</i>	Db Qy	Db Qy	Query Ma Best Loc Matches	ORIGIN	JOURNAL FEATURES source	AUTHORS	ORGANISM	ACCESSION VERSION KEYWORDS	CQ730452 LOCUS DEFINITION
വ	10 GGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCCTCTGCCTTCAA 6	550 CGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGGACCTTCGGCCG 609	490 CCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGACTTCCTCGTCGG 549	430 CATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCCTGGCCGACTCGAG 489	370 CGGGGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTCATGGCGCTGCT 429	310 GCCGCCCGACGGGCCGCTGAACGCTTCGGGGGGGGCGTGGCGGGGGATGCGGCGGCGGGGGGGG	250 CGGCCGGCGCCCCGCGTCCCCGGAGCCGCGTGAGCCTGCGGGGCCATGGAGCGCGC 309	190 GGCCAAGGGCCCGCAAAGACGAGGCTCCCGGGCCGGGCC	130 CTGGCCCGGGCCCCGGGCCCCGGGGACCATGCGCTGGGGGCCCCCAGGGGAAACCCGACCC 189	70 GCCGGGCTGCCGGCCCACTGGGCTCGGATCCGGCCCCGGCCCCTCGGCACCGCCTCGCT 129	10 CGCCGGCTGCACGGTCGCACCGGCACCGGCTCAGGCTCCGGCTCCTCCCCGCTGCAGCA 69	Query Match 97.5%; Score 2632; DB 6; Length 2665; Best Local Similarity 99.7%; Pred. No. 0; Matches 2657; Conservative 0; Mismatches 5; Indels 2; Gaps 2;		Patent: WO 02068579-A 16386 06-SEP-2002; PE Corporation (NY) (US) Location/Qualifiers e 1 .2665	Venter, C.J., Adams, M.C., Li, P.W. and Myers, E.W. Kits, such as nucleic acid arrays, comprising a majority of humanexons or transcripts, for detecting expression and other uses thereof	Homo sapiens Homo sapiens Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.	CQ730452 CQ730452.1 GI:42304	
Ş	₽ <i>Q</i>	D 45	} B &	} B &	o da Qy	dg Q	, B &	P &	S B &	S B &	g 49 8	dg Q	4g 4g	Qу	od da	D Qy	g &	Дb
1750 TGTGGCCCTCTCTTAATGCCACGGCAGCCACCCTGCCATGGAGGCGCCTTCCTGGGTTGG 1809	1690 GCATCTGGCCCTGCTGCCCCTACCCGGCTCGTTCCCCCAGGGGTGAGCCCCGCCGTGTC 1749	1633 GAAGTGAGTGGCCCACCAGAGCCTCCCTCAGCCACGCCTCTCTCAGCCCAGGCCAAGGTCTCCTGG 1682		CTCGGCTGTCAACCCTGTCCTCTACCCTTCTGTGCCACCACAGCTTCCGCCGGGCCTTCACCCTTCTGCCCTCTGTGCCACAGCACAGCTTCCGCCGGGCCTTCACCCTTCTGTGCCACAGCACAGCTTCCGGCCGG	cartgaccacrigostcocracracracracacaccacracracracracracracra	GAGCATCTTTGGGCTCTGGTGGGCCCCATACACGCTGCTGATGATCATCCGGGCCGCCTGGGCCATACACGCTGCTGATGATCATCCGGGCCGCCCTGGGCCCCATACACGCTGCTGATGATCATCCAGGCCGCCCTGGGCCCCCATACACGCTGCTGATGATCATCCAGGCCGCCTGCTGATGATCATCCAGGCCGCCCTGCCTG	CACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTGGCCGTCATCGT	CAGGC CONTENT OF CONTENT CONTENT OF CANAL CONTENT OF CO	CALCAGE ECGGARACTECT CORRESPONDE SARVAGE CORRE	1150 TGAGGCCGGGGAGGGACCCTCGGGGGGGGGGGGGGGGGG	GGGGAXCGGGAXGGCATGCCGCTGCAAAGGGTTGGGTTGAAGGGGTTGAAGGGGTGGTTAAGGGGTGGAAGGGGAAGGGAAGGGAAGGGAAGAA	CCCTCCCGAGGCCCAGCCCTCACCACCCCCCCCCGCCTGCTGCTGGGGCTGCTGGCAGAA	970 CATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGCTCGAGAGGCAGCCCGGCCCCGAGCC 1029	910 CCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCATCTACCTGAA 969 	850 CGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCACGGCTTCCAC 909	790 CCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGGCAGCTCCATCCC 849	730 CCAGCAGGGTGACACGCGGCGGCAGTGCCGAAGATGCTGCTGGTGTGGGTGCTGGCCTT 789	

```
RESULT 9
HS1005F21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                           ક
                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  र्
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       र्
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                                                             2582
                                                                                                                                                                                                                                                                                                                                                                                      2590
                                                                                                                                                                                                                                                                                                                                                                                                                              2522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1930
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1870
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1743
HIS1005F21

100976 bp DNA linear PRI 24-APR-2001 Human DNA sequence from clone RP5-1005F21 on chromosome 20 Contains the PSMA7 gene for proteasome subunit 7, alpha type (prosome, macropain), the HRH3 gene encoding histamine receptor H3, the KIAA0693 gene similar to SSXT (synovial sarroma, translocated to X chromosome), a novel gene for a GTP-binding protein, the 3' end of a novel gene similar to Pleurodeles waltlli RAPS5 protein, 7 CpG islands, ESTs, STSs and GSSs, complete sequence.
                                                                                                                                                                                                                                                                                    GTCACAATAAAGTGTATTTTTTTA 2673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAAGAGAGAGAAAATTGCTGAGGAGCTCAGGGCTGGATTGGCAGGTGTGGGCTCCCACGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAAAAGTGTCAAGGGGCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTTCCATTCTGGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCCACCCTTCGCAGTTACTGGTTGGTTCCTTCCCAAAGCAACCTGGGTGTGCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCCCACCCTTCGCAGTTACTGGTTGGTGTTCTTCCCCAAAGCAACCTGGGTGTGCTCC
                                                                                                                                                                                                                                                                GTCACAATAAAGTGTATTTTTTTA
                                                                                                                                                                                                                                                                                                                                                                         TGCCACGCGCTCTGCATGCTCCTCTGCCTGTGCCCGCTGCGCTGCCCTGCAAACCGTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGACCTCTGGGGGTTGTTGGGAGGAGGAGGGGCCCGGCTGGGCCCGAGGGTCCCAAGGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTTTCAGAAAGATGAAGAAAAACATGTCTGTGAACTTGATGTTCGTGGGATGTTTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAAAAGTGTCAAGGGGCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTTCCATTCTGGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCTGCACACCGTCCCTCTCCCCGGACAAGCCCCAGGACACTGCCTTTGCTGCCTTCTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCTGCACACCGTCCCTCTCCCCCGGACAAGCCCAGGACACTGCCTTTTGCTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGGCTTCCTGCCCTAGCAGTTTGCCTCTGCACGTGCACACCTCCACACCCCCTGCACAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGCTCCACCGGGGAGGGACAGTCTGGAGGTCCCAGACATGCTGCCCACCCCCTGCTGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCAGAGGGCCCCTCACTGGCTGGACTGGAGGCTGGGTGGCCCGGCCCTGCCCCCACATTC 1869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGTGGCCCTCTTAATGCCACGGCAGCCACCCTGCCATGGAGGCGCCTTCCTGGGTTGG 1802
                                                                                                                                                                                                                                                                                                                                               TGCCACGCGCTCTGCATGCTCCTCTGCCTGTGCCCGCTGCGCTGCCCTGCAAACCGTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGGGGGGGTCCAGAGGAGGTGCCCGGGCAGGGGCCGCTTCGCCATGTGCTGTGCACCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCTGGGCTCACACCAGCCCTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTTGCTCACCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCTCCTCCGCTAAGGCTTCCGGCTGAGCTGTGCCAGCTTCTGCCCACCCCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAAGAGAGACAAAATTGCTGAGGAGCTCAGGGCTGGATTGGCAGGTGTGGGCTCCCACGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGGCTTCCTGCCCTAGCAGTTTGCCTCTGCACGTGCACACCCTGCACACCCCTGCACAC
                                                                                                                                                                                                                                                                2665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1929
                                                                                                                                                                                                                                                                                                                                               2641
                                                                                                                                                                                                                                                                                                                                                                                         2649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMMENT
                            repeat_region
                                                                 repeat_region
                                                                                                                                                     repeat_region
                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                    repeat_region
                                                                                                                                                                                                                                                                               repeat_region
                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       requests: clone request@eanger.ac.uk

On Jul 23, 2000 this sequence version replaced gi:8919366.

During sequence assembly data is compared from overlapping clones.
Where differences are found these are annotated as variations
together with a note of the overlapping clone name. Note that the
variation annotation may not be found in the sequence submission
corresponding to the overlapping clone, as we submit sequences with
only a small overlap as described above.
The following abbreviations are used to associate primary accession
numbers given in the feature table with their source databases:
Em: EMBL; Sw:, SWISSPROT; Tr:, TREMBL; Wp:, WORMPEP; Information
on the WORMPEP database can be found at
http://www.sanger.ac.uk/Projects/C_elegans/wormpep This sequence
was generated from part of bacterial clone contigs of human
chromosome 20, constructed by the Sanger Centre Chromosome 20
Mapping Group. Further information can be found at
http://www.sanger.ac.uk/HGP/Chr20
This sequence is the entire insert of clone RP5-1005F21 The true
right end of clone RP11-11M20 is at 81766 in this sequence. This
sequence was finished as follows unless otherwise noted: all
regions were either double-stranded or sequenced with an alternate
chemistry or covered by high quality data (i.e., phred quality >=

10); an attempt was made to resolve all sequencing problems, such
as compressions and repeats; all regions were covered by at least
one plasmid subclone or more than one M13 subclone; and the
assembly was confirmed by restriction digest. RP5-1005F21 is from
the library RPCI-5 constructed by the group of Pieter de Jong. For
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AL078633.32 GI:9408092
AL078633.32 GI:9408092
HTG; CpG island; GTP-binding protein; histamine receptor; HRH3;
KIAA0893; macropain; PMSA7; prosome; proteasome; SSXT; synovial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Direct Submission
Submitted (24-APR-2001) Sanger Centre, Hinxton, Cambridgeshire,
CB10 1SA, UK. E-mail enquiries: humquery@sanger.ac.uk Clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 100976)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     http://www.chori.org/bacpac/home.htm
VECTOR: pCYPAC2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              further details see
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Corby, N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens (human)
                                                                                                           /note="4 copies 14 m
5041. .5110
/note="7 copies 10 m
5042. .5109
                                                                                                                                                                                                                                                                                  3036. .3149
/note="MER45 repeat: matches 1. .116 of
3564. .3753
                            /note="33 copies 2
5181. .5276
                                                                        /note="34 copies 2 5116. .5181
                                                                                                                                                                                                                                                            /note="10 copies 19 mer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /mol_type="genomic_DN
/db_xref="taxon:9606"
/chromosome="20"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Homo sapiens"
/mol type="genomic DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                               note="MLT1J repeat: matches 137. .370 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                      note="MIR repeat: matches 80. .152 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                              clone_lib="RPCI-5"
                                                                                                                                                                                                                                                                                                                                                                                                                                                      /clone="RP5-1005F21"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .100976
                                                                                                                                                                                                                    copies 10
          32
                                                                                                                                                                                                                      mer
          mer
                                                    mer
                                                                                            mer
                                                                                                                                                                                 mer
                                                                                                                                       mer
                                                Ę
          78% conserved"
                                                                                         gt
                                                                                                                                 tgtgagtgtg 72% conserved"
                                                                                                                                                                             85% conserved"
                                                                                                                                                                                                                    agtgtgtgtg
                                                                                                                                                                                                                                                                92% conserved"
                                                    69% conserved'
                                                                                                                                                                                                                      78%
                                                                                                                                                                                                                      conserved"
                                                                                                                                                                                                                                                                                                          consensus"
```

of consensus"

```
repeat_region
 repeat_region
                                 repeat_region
                                                                    repeat_region
                                                                                                                                    repeat_region
                                                                                                                                                                     repeat_region
                                                                                                                                                                                                      repeat_region
                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                      6423...6492

/note="7 copies 10 mer g

6425...6498

/note="37 copies 2 mer g

6480...6631

/note="8 copies 19 mer 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                  6130. .6199
/note="5 con'
                                                                                                                                                                   6483. .6652
/note="5 copies 34 mer
5852. .6903
                                                                                                                                                                                                                                                                                                                                                          /note="4 copies 37 mer 69% conserved"
6333. .6652
/note="10 copies 32 mer 67% conserved
6353. .6454
/note="3 copies 34 mer 80% conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note="6 copies 37 mer 72% conserved"
5943. .6176
/note="6 copies 39 mer 68% conserved"
6128. .6199
/note="3 copies 24 mer 84% conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="12 copies 14 mer
5640. .5787
/note="4_copies 37 mer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5349. .5543

'note="5 copies 39 mer 65% conserved"

5386. .5931

'note="26 copies 21 mer 54% conserved

5407. .5678
                                                                                                      /note="6 copies 14
5910. .6989
                                                                                                                                                                                                                    note="8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note="3 copies 33 mer 79% conserved"
5502. .5669
/note="7 copies 24 mer 69% conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;274. .5675
/note="201 copies 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                'note="8 copies 10 mer
                   note="FLAM_C repeat: matches 1. .133 of consensus"
                                                 note="46 copies 2 mer gg 62% conserved"
                                                                    'note="40 copies
|464. .7555
                                                                                                                                       note="26 copies 2 mer
909. .6992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   'note="3 copies 34 mer
1931. .6176
'note="3 copies 82 mer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  801. .6163
note="11 copies 33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            'note="8 copies 34 mer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  341. 5439
note="3 copies 33 mer 96% conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              note="8 copies 50"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                'note="4 copies 22 mer 75% conserved"
                                                                                                                                                                                                                                                                                                                           note="9 copies 21 mer 65% conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   note="33 copies 2 mer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8. .5789
hte="4 copies 33 mer 72% conserved"
0. .5825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      te="7 copies 24 mer 69% conserved"
7. .5676
te="17 copies 10 mer gtgtgtgtgt 699
9. .5676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2. .5675
te="12 copies 32
                                                                                                                                                                                                                                                                                                                                                                                                                                           ="5 copies 14 mer
.6376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .5980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "3 copies 82
.6158
                                                                                                                                                                                                                                                                                                                                          ."3 copies 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .5694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .5538
                                                                                      N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mer
                                                                                      mer
                                                                                                                       mer
                                                                                                                                                                                                                                                                                                                                                                                             mer 67% conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mer 69% conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               mer 63% conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     mer 62% conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mer gtgtgtgtgt 69% conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mer 54% conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mer tg 59% conserved"
                                                                                    ac
                                                                                                                     72%
                                                                                                                                                                                                                          73%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   72%
                                                                                                                                                       ca 75% conserved"
                                                                                                                                                                                                                                                         gt 74% conserved"
                                                                                                                                                                                                                                                                                         gggagtgtgt 77% conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                75% conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  79% conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gt 71% conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        77% conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            66% conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gtgtgtgtgt 73% conserved"
                                                                                                                                                                                        75% conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              64% conserved"
                                                                                      67%
                                                                                                                       conserved"
                                                                                                                                                                                                                          conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 conserved"
                                                                                      conserved'
                 Ś
                                                                               Ş
                                                                                                                                                   S
                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                           밁
                                                   밁
                                                                                                                    밁
                                                                                                                                                                                       문
                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                             Matches 1973;
                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                        18833
                                                                                                                                                                                                                                                           18773
                                                                                                                                                                                                                                                                                                                           18713
                                                                                                                     18893
                                                                                                                                                                                                                          799
                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                         CTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCACGGCTTCCACCCTGGAGTT
                                                                                                                                                                                                          CGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGGCAGCTCCATCCCCGAGGGCCA
                                                                                                                                                                                                                                                                                                                            CTTCCGCCCCGCCCTGACCAGCCTGCCCTTCTGCAGGTCTCATACCGGGCCCAGCAGGG
                                                                                                                                                                                                                                                                                                                                                 CATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTCATACCGGGCCCAGCAGGG
                   GCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCCGGCCCCGAGCCCCCTCCCGA 1038
                                                                           CTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCATCTACCTGAACATCCAGAG
                                                                                                                     CTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCACGGCTTCCACCCTGGAGTT
                                                                                                                                                                                        CGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGCAGCTCCATCCCCGAGGGCCA
                                                                                                                                                                                                                                                           TGACACGCGGCGGCAGTGCGGAAGATGCTGCTGGTGTGGGGTGCTGGCCTTCCTGCTGTA
                                                                                                                                                                                                                                                                               CTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCATCTACCTGAACATCCAGAG
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Em:M81590 Em:X89731 Em:L12398 Em:U04310 Em:AF079115
Em:S76942 Em:AF108017 Em:S45235 Em:AF149717 Em:U07882
Em:AF246718 Em:U10504 Em:U86601 Em:AK023527 Em:AF162010
Em:AF162011 Em:U10504 Em:U31821 Em:AF013958 Em:U00475
Em:S56143 Em:L24445 Em:AB004662 Em:AF013958 Em:U00475
Em:AF176838 Em:U51098 Em:AF162009 Em:Y14493 Em:L22214
Em:U04279 Em:AF162008 Em:AF266468
Em:EB063702 Em:BB647364 Em:H30846 Em:AR67218 Em:BB783826
Em:BE063702 Em:BE647364 Em:H30846 Em:AR657865 Em:AW049250
Em:AW654493 Em:AA933666 Em:P30372 Em:AI452091 Em:BB429590
Em:H28163 Em:BB439889"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /product="dJ1005F21.1 (histamine receptor H3 )"
/note="match: cDNAs: Em:AF140538 Em:AB015646 Em:AB019000
Em:AF267538 Em:M22926 Em:X04413 Em:AF237919 Em:AF267537
Em:AF026262 Em:AF307973 Em:AB044934 Em:M32061 Em:AF188626
                                                                                                                                                                                                                                                                                                                                                                                                                                                           evidence=not_experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5352. .15414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       :5302. .15399
/note="7 copies 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15274. .15399
'note="14 copies 9 mer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               'note="LTR16B repeat:
L3076. .13123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note="L2 repeat: matches 1690.
11214. .11309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     oin(15421. .15955,17019. .17185,18750. .20706)
gene="HRH3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'gene="HRH3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        note="9 copies 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .5299. .15397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          note="50 copies 2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5295. .15384
note="9 copies 10 mer ggggggcggg 67% conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            evidence=not_experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       note="5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ote="3 copies 21
421. .20706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              611. .16552
|ote="CpG island"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ote="MIR repeat: matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ote="5 copies 33 mer 67% conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29. .14472
te="22 copies 2
                                                                                                                                                                                                                                                                                                                                                                                                             72.2%;
98.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .15397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .15396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         copies 19
                                                                                                                                                                                                                                                                                                                                                                                          Score 1949.4; DB 9;
Pred. No. 4.3e-256;
0; Mismatches 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            mer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        mer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mer 69%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        mer 68% conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 mer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gg 67% conserved'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gggggggc 61% conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ęg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         70%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 75%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 77.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                356. .452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .124 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .2509 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                           Length 100976;
```

1; Gaps

۲,

738

798

18772

18832

978 18952 918 18892 858

유 상 유

```
19793
                                                                                                                                                                                                                                                                                                                                                                                         19733
                                                                                                                                                                                                                                                                                                                                                                                                                                                         19673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19613
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    19373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19133
                                                                                                                             19972
                                                                                                                                                                                           19913
                                                                                                                                                                                                                        1879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19493
                                                                                                                                                           1939
                                                                                                                                                                                                                                                                                         1819
                                                                                                                                                                                                                                                                                                                                                         1759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19013
                                                                                                                                                                                                                                                                                                                         TCGCAGTTACTGGTTGGTGTTCTTCCCAAAGCAAGCACCTGGGTGTGCTCCAGGCTTCCT
                                                                                                                                                                                                                                                          CCCTCACTGGCTGGACTGGAGGCTGGGTGGCCGCCTGCCCCCACATTCTGGCTCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGCCCACCAGAGCCTCCCTCAGCCACGCCTCTCAGCCCAGGTCTCCTGGGCATCTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAACCCTGTCCTCTACCCTCTGTGCCACCACGAGCTTCCGCCGGGGCCTTCACCAAGCTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTCCTGTGGGCCAACTCGGCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGCGTCCTCGGCTCGCTGGAGAAAGCGCATGAAGATGGTGTCCCAGAGCTTCACCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGCGTCCTCGGCCTGGAGAAGCGCATGAAGATGGTGTCCCAGAGCTTCACCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGAGGCCATGCCGCTGCACAGGTATGGGGTGGGTGAGGCCGGTAGGCCGTAGGCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCCGGCCCCGAGCCCCCTCCCGA 19072
ccerccci
                GCCCTAGCAGTTTGCCTCTGCACGTGCACACCTGCACACCCCTGCACACCCTGCACA
                                                                               GCCCTAGCAGTTTTGCCTCTGCACGTGCACACCCCTGCACACCCCCTGCACACCCCCTGCACA
                                                                                                                             TCGCAGTTACTGGTTGGTTCTTCCCAAAGCAAGCACCTGGGTGTGCTCCAGGCTTCCT
                                                                                                                                                                                           C-GGGAGGGACAGTCTGGAGGTCCCAGACATGCTGCCCACCCCTGCTGGTGCCCACCCT
                                                                                                                                                                                                              CGGGGAGGGACAGTCTGGAGGTCCCAGACATGCTGCCCACCCCTGCTGGTGCCCACCCCT
                                                                                                                                                                                                                                                                              CCCTCACTGGCTGGACTGGAGGCTGGGCCGGCCCTGCCCCCACATTCTGGCTCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                         CCTGCTGCCCCCTACCCGGCTCGTTCCCCCAGGGGTGAGCCCCGCCGTGTCTGTGGCCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTGCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTGGAGCACTGCTGGAAGTGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTGGAGCACTGCTGGAAGTGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAACCCTGTCCTCTACCCTCTGTGCCACCACAGCTTCCGCCGGGCCTTCACCAAGCTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTCCTGTGGGCCAACTCGGCTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGGCTCTGCTGGGCCCCATACACGCTGCTGATCATCATCCGGGCCGCCTGCCATGGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATCCGGGCCGCCTGCCATGGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTGGCCGTCATCGTGAGCATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTTTCGGCTGTCTCGGGACAGGAAAAGTGGCCAAGTCGCTGGCCGTCATCGTGAGCATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1458
                            2118
                                                              20091
                                                                                             2058
                                                                                                                             2003
                                                                                                                                                                                                                                                                                          1878
                                                                                                                                                                                                                                                                                                                          19852
                                                                                                                                                                                                                                                                                                                                                         1818
                                                                                                                                                                                                                                                                                                                                                                                           19792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1698
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    19132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1098
2015
                                                                                                                                                                                                                                                            19912
                                                                                                                                                                                           19971
                                                                                                                                                                                                                            1938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19192
                                                                                                                                                                                                                                                                                                                                                                                                                                                           19732
```

8 8 8 8 8 8 8 8 8 8 8 8

밁

8 8 8 8 8 8 8 8 8 8 8

성 음 성 음

5 B 5 B 5 B

```
RESULT 10
CQ782656
LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                           SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઇ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ф
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                              FEATURES
                                                                                                                                                                                                         JOURNAL
                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                      Sgo
                                                                                                                                                             source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20332
                                                                                                                                                                                                                                                                                                                                                                    CQ782656
Sequence 279
CQ782656
CQ782656.1
                                                                                                                                                                                                                                                                                              Homo sapiens (human)
Homo sapiens
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                         Primers for synthesizing full length cDNA clones patent: EP 1396543-A 2796 10-MAR-2004; Research Association for Biotechnology (JP) Location/Qualifiers
                                                                                                                                                                                                                                                 Ota,T., Nishikawa,T., Isogai,T., Hayashi,K., Is
Wakamatsu,A., Sugiyama,T., Nagai,K., Kojima,S.,
                                                                                                                                                                                                                                   Koga, H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAGTGTATTTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTCTGCATGCTCCTCTGCCTGTGCCCGCTGCGCTGCCAAACCGTGAGGTCACAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGGGTTGTTGGGAGGAGGGGGCCCGGCTGGGCCCGAGGGTCCCAAGGCGTGCAGGGGCCGGGGCGGGGCTGGGGCTTGTTTGGGAGGAGGGGGCCCGGGCTGGGCCCCGAGGGTCCCAAGGCGTGCAGGGGCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACACCAGCCCTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTTGCTCACCCAGGACCTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACACCAGCCCTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTTGCTCACCCAGGACCTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCCGCTAAGGCTTCCGGCTGAGCTGTCCCAGCTCTTCTGCCCACCCCGCCTCTGGGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCCGCTAAGGCTTCCGGCTGAGCTGTCCCAGCTCCTGCCCACCCCGCCTCTGGGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAAGGGGCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTCCAGTTCTGGGTGTTTTCAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTCTGCATGCTCTCTGCCTGTGCCCGCTGCGCTGCAAACCGTGAGGTCACAATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCCAGAGGAGGTGCCCGGGCAGGGGCCGCTTCGCCATGTGCTGTGCACCCGTGCCACGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAAGGGGCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTCCATTCTGGGTGTTTTCAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAGTGTATTTTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCCAGAGGAGGTGCCCGGCAGGGGCCCGCTTCGCCATGTGCTGCCACCCGTGCCACGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGATGAAGAAGAAACATGTCTGTGAACTTGATGTTCCTGGGATGTTTAATCAAGAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                1902 bp I
2796 from Patent EP1396543.
/codon_start=1
/proteIn_id="CAB5903.1"
/broteIn_id="CAB5903.1"
/db_xref="GI:45502600"
/translation="MLLVMVLAFILLYGPAILSWEYLSGGSSIPEGHCYAEFFYNWYFL
ITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAAGPEPPPEAQPSPPPPG
CWGCWQKGHGEAMPLHRKVAKSLAVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYE
                                                                                                               /organism="Homo sapiens"
/mol_type="unassigned DNJ
/db_xref="taxon:9606"
                                                                                     /note="unnamed protein product"
                                                                                                                                                             .1902
                                                                                                                                                                                                                                                                                                                                                                       GI:45502599
                                                                                                      .867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2673
                                                                                                                                   DNA"
                                                                                                                                                                                                                                                    Ishii,S.,
S., Otsuki,
                                                                                                                                                                                                                         and their use
                                                                                                                                                                                                                                                                                                                                                                                                                   PAT 17-MAR-2004
                                                                                                                                                                                                                                                    Kawai,Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2051:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20271
```

Qy 1490 TTCTGGCTCCTGTGGGCCAACTGGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCAC	QY 1430 ATGATCATCCGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTGGTACGAAACCTCC Db 661 ATGATCATCCGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTGCTACTGGTACGAAACCTCC	OY 1370 AAGTCGCTGGCCGTCATCGTGAGCATCTTTGGGCTCTGGGCCCCATACACGCTGCTG	L	5 2	5 12 (1130		Qy 1010 GAGGCAGCCCGGCCCCGAGCCCCTCCCGAGGCCCTCACCACCCCCACCGCCTGGC Db 481 GAGGCAGCCCGGAGCCCCTCCCGAGGCCCAGCCCTCACCACCGCCTGGC	OY 950 AACCTCAGCATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGGTCGA	OY 890 TTCCTCATCACGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTT Db 361 TTCCTCATCACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTT	Oy 830 TCCGGGGGCAGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTAC Db 301 TCCGGGGGCAGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTAC	QY 770 CTGGTGTGGGTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTG	OY 710 CGAGCGGTCTCATACCGGGCCCAGCAGGGTGACACGCGGGCAGTGCGGAAGATGCTG	OY 650 TGCACCTCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACC	OY 590 GGCCGCTGGACCTTCGGCCGGGGCCTCTGCAAGCTGTGGTAGTGGACTACCTGCTG	OY 530 ATCTCCGACTTCCTCGTCGGCGCCCTTCTGCATCCCACTGTATGTA	Query Match 60.6%; Score 1636.2; DB 6; Length 1902; Best Local Similarity 88.6%; Pred. No. 4.1e-213; Matches 1899; Conservative 0; Mismatches 3; Indels 241; Gaps	TSFWLLWANSAVNPVLYPLCHHSFRRAFTKLLCPQKLKIQPHSSLEHCWK"
9 Qy 2570 Db 1800	1489 Qy 2510 CCCAGGGC 	2450 1680	9 Qy 2390 Db 1620	9 Qy 2330 9 Db 1560	9 Qy 2270 9 Db 1500	9 Qy 2210 9 Db 1440	9 Qy 2150 Db 1380	1069 Qy 2090 TGCCTTTGG	1009 Qy 2030 ACCTGCACJ 1260 ACCTGCACJ	1970	1910	1081	1790 1021	1 0	901	1610 841	1550 781	Db 721 TTCTGGCT
CGCCATGTGCTGTGCACCCGTGCCACGCGCTCTGCATGCTCCTCTGCCTGTGCCCGCTGC 2629	CCCAAGGGTCCCAAGGCGTCAAGGGCGGTCCAGAAGGAGGTCCCCGGCAAGGGCCGCTT 2569	250 173		GCAGGTGTGGGCTCCCACGCCCTCCCTCCCTCCGCTAAGGCTTCCGGCTGAGCTGTGCCAG 2389	ATGTTCGTGGGATGTTTAATCAAGAGAGACAAAATTGCTGAGGAGCTCAGGGCTGGATTG 2329 	CIGCTTTTCCATTCTGGGTGTTTTCAGAAAGATGAAGAAAAAAAA	CCACCAACTCTCTCTGCCCCCAAAAGTGTCAAGGGGCCCTAGGAACCTCGAAGCTGTTCT 2209	TGCCTTTGCTGCCTTCTGCTTTGCATAAGCCTCAGGCCTGGCCCTTTCACCCCTCTTC 2149	ACCTGCACACCCCTGCACACACCTGCACACCGTCCCTCTCCCCGGACAAGCCCAGGACAC 2089									TTCTGGCTCCTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCAC 780

Ş	Db Q	gb Qy	P 49	Db Qy	유 성	Query Match Best Local Matches 189	ORIGIN	FEATURES source					COMMENT	TITLE JOURNAL	AUTHORS	ORGANISM REFERENCE	ACCESSION VERSION KEYWORDS SOURCE	RESULT 11 BD127248 LOCUS DEFINITION	Db 1	Ş
830 TCCGGGGGCAGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTAC 889	770 CTGGTGTGGGTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTG 829	710 CGAGCGGTCTCATACCGGGCCCAGCAGGGTGACACGCGGGCGG	650 TGCACCTCCTCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACC 709	590 GGCCGCTGGACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTG 649 [530 ATCTCCGACTTCCTCGTCGGCGCCCTTCTGCATCCCACTGTATGTA	Match 60.6%; Score 1636.2; DB 6; Length 1902; Jocal Similarity 88.6%; Pred. No. 4.1e-213; State of the state	/db/ /mc/ 01/	Location/Qualifiers FT CDS (235). (864). Location/Qualifiers 1. 1902	C12N15/09,C07K14/47,C07K16/18,C12N1/15,C12N1/19,C12N1/21,C12N5/ PC	SHIVICHI KOJIMA, PI TETSUJI OTSUKI,HISASHI KOGA PC	ISHII, YURI KAWAI,AI WAKAMATSU,TOMOYASU S	22-1 07-1 TOSI	OS Homo sapiens (human) PN JP 2002017375-A/2679			4 Homo sapiens Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 1902)	BD127248 BD127248.1 GI:23222193 JP 2002017375-A/2679. Homo sapiens (human)		1860 GCTGCCCTGCAAACCGTGAGGTCACAATAAAGTGTATTTTTTT 1902	2630 GCTGCCCTGCAAACCGTGAGGTCACAATAAAGTGTATTTTTTT 2672
					-								·		,					
유 성	g 49) B 5	P &	B &	B 8	d dy	Db Qy	B 8	B 8	日	Ş	유 상	용	8	D Q	B 8	д У	B 64	B 8	Db
1910 GCTGCCCACCCCTGCTGGTGCCCACCCTTCGCAGTTACTGGTTGTTGTTCTTCCCAAAG 1969 1140 GCTGCCCACCCCTGCTGGTGCCCACCCTTCGCAGTTACTGGTTGGT	50 CGGCCTGCCCCCACATTCTGGCTCCACCGGGAGGACAGTCTGGAGGTCCCACAACAT 81 CGGCCCTGCCCCCCACATTCTGGCTCCACC-GGGAGGACAGTCTGGAGGTCCCACACACAT	SAGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG	30 GGGGTGAGCCCGCGGGTGTCTTGTGGCCCTCTCTTAATTGCCGGGGGGCCACCCTGCCATG 61 GGGGTGAGCCCGCCGTGTCTCTGTGGCCCTCTCTTAATTGCCACGGCAGCCACCCTGCCATG 61 GGGGTGAGCCCCCCGCTGTCTCTGTGGCCCTCTCTTAATTGCCACGGCAGCACCCTGCCATG	70 TOTCAGOCCAGGTCTCGGGCATCTGGCCCTGGCCCCCTACCCGGCTGGTCCCCCA	1610 AGCTCCCTGGAGCACTGCTGGAAGTGAGTGGCCCACCAGAGCCTCCCTC	AGCTTCCGCCGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCAC	1490 FTCTGGCTCCTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCAC 1549	1430 ATGATCATCCGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCC 1489	1370 AAGTCGCTGGCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTG 1429		AAGATGGTGTCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCC 1	1250 CGCTCACTCAAGAGGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCGCTGGAGAAGCGCATG 1309 587 586	587 586	GGCTCCGTGGCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGGCACTGAGAGGCCG 1	1130 GGTGAGGCGGTAGGCGCTGAGGCCGGGGAGGCGACCCTCGGGGGTGGCGGTGGGGGC 1189	1070 TGCTGGGGCTGCTGGCAGAAGGGGCACGGGGAAGGCCATGCCGCTGCACAGGTATGGGGTG 1129		950 AACCTCAGCATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGA 1009	890 TICCICATCACGCTICCACCCTGGAGTICTTTACGCCCTICCTCAGCGTCACCTTCTIT 949	TCCGGGGGCAGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTAC 3

```
뮍
            JOURNAL REFERENCE
                                                                                                                                                                                                                                                         RESULT 12
AK074730
LOCUS
                                                                                                                                                                  SOURCE
ORGANISM
                                                                                                                                                                                          ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                        유
                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             음 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                             REFERENCE
                                                                                                                                                                                                                                              DEFINITION
                                     TITLE
                                                                                                                 AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2030
                                                                                                                                                                                                                                                                                                                          1860
                                                                                                                                                                                                                                                                                                                                                                                                                             1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                     2510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1970
                                                            Isogai,T., Ota,T., Nishikawa,T., Hayashi,K., Otsuki,T., Sugiyama,T., Suzuki,Y., Nagai,K., Sugano,S., Ishii,S., Sugiyama,T., Suzuki,Y., Nagai,K., Sugano,S., Ishii,S., Kawai-Hio,Y., Saito,K., Yamamoto,J., Wakamatsu,A., Nakamura,Y., Kojima,S., Nagahari,K., Masuho,Y., Ono,T., Okano,K., Yoshikawa,Y., Aotsuka,S., Sasaki,N., Hattori,A., Okumura,K., Iwayanagi,T. and
                                                                                                                                                                             oligo capping; fis (full insert sequence)
Homo sapiens (human)
                                                                                                                                                                                                                                AK074730 1902 bp mRNA linear Homo sapiens cDNA FLJ90249 fis, clone NT2RW2001941, to MUSCARINIC ACETYLCHOLINE RECEPTOR M1.
                                                                                                                                                                    Homo sapiens
2 (bases 1 to 1902)
Isogai, T. and Otsuki, T.
                      Unpublished
                                    Ninomiya, K.
NEDO human cDNA sequencing
                                                                                                                                        Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                      AK074730
AK074730.1 GI:22760362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCAGGTGTGGGCTCCCACGCCCTCCCTCCGCTAAGGCTTCCGGCTGAGCTGTGCCAG
                                                                                                                                                                                                                                                                                                                          GCTGCCCTGCAAACCGTGAGGTCACAATAAAGTGTATTTTTT 1902
                                                                                                                                                                                                                                                                                                                                         GCTGCCCTGCAAACCGTGAGGTCACAATAAAGTGTATTTTTTT 2672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCACCAGCTCTCTCTGCCCCCAAAAGTGTCAAGGGGCCCTAGGAACCTCGAAGCTGTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCACCAACTCTCTCTGCCCCCAAAAGTGTCAAGGGGCCCTAGGAACCTCGAAGCTGTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGCCTTTGCTGCCTTCTGTCTCTTTGCATAAGCCTCAGGCCTGGCCCTTTCACCCCTCTTC
                                                                                                                                                                                                                                                                                                                                                                            CGCCATGTGCTGTGCACCCGTGCCACGCGCTCTGCATGCTCCTCTGCCTGTGCCCGCTGC
                                                                                                                                                                                                                                                                                                                                                                                         CGCCATGTGCTGTGCACCCGTGCCACGCGCTCTGCATGCTCTGCCTGTGCCTGTGCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                             CCCGAGGGTCCCAAGGCGTGCAGGGGCGGCCGGGCAGGGGCCGCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCCGAGGGTCCCAAGGCGTGCAGGGGGCCGCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCACTCTGTTTGCTCACCCAGGACCTCTGGGGGGTTGTTGGGAGGAGGGGGCCCGGCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCACTCTGTTTGCTCACCCAGGACCTCTGGGGGGTTGTTGGGAGGAGGGGGGCCCGGCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGCTTCTGCCCACCCCGCCTCTGGGCTCACACCAGCCCTGGTGGCCAAGCCTGCCCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTGCTTCTGCCCACCCCGCCTCTGGGCTCACACCAGCCCTGGTGGCCAAGCCTGCCCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCAGGTGTGGGCTCCCACGCCTCCTCCCTAAGGCTTCCGGCTGAGCTGTGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGTTCGTGGGATGTTTAATCAAGAGAGACAAAATTGCTGAGGAGCTCAGGGCTGGATTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTGCTTTTCCATTCTGGGTGTTTTCAGAAAGATGAAGAAGAAAACATGTCTGTGAACTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGCCTTTGCTGCCTTCTGTCTTGCATAAGCCTCAGGCCTGGCCCCTTTCACCCCTCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCTGCACACCCCTGCACACCCTGCACACCGTCCCTCTCCCCGGACAAGCCCAGGACAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCTGCACACCCCTGCACACCTGCACACCGTCCCTCTCCCCCGGACAAGCCCAGGACAC
                                     project
                                                                                                                                         Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                             PRI 03-SEP-2002 weakly similar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1379
                                                                                                                                                                                                                                                                                                                                                                                                     2629
                                                                                                                                                                                                                                                                                                                                                                                                                             1799
                                                                                                                                                                                                                                                                                                                                                                                                                                                     2569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2089
                                                                                                                                                                                                                                                                                                                                                                             1859
                                                                                                                                                                                                                                                                                                                                                                        DЬ
                                                                                                                                  ð
                                                                                                                                                                 В
                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                 á
                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                              S
                                                              В
                                                                                     Ş
                                                                                                                                                                                         S
                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 1899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
              481
                                                              421
                                                                                                                 361
                                                                                                                                         890
                                                                                                                                                                    301
                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                              770
                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                  650
                                                                                                                                                                                                                                                                                                                                                                                                     590
                                                                                                                                                                                                                                                                                                                                                                                                                                                      530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1899;
                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                              _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
```

```
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (25-MAR-2002) Takao Isogai, Helix Research Institute, Genomics Laboratory; 1532-3 Yana, Kisarazu, Chiba 292-0812, Japan (E-mail:genomics@hri.co.jp, Tel:81-438-52-3975, Fax:81-438-52-3986) NEDO human cDNA sequencing project supported by Ministry of Economy, Trade and Industry of Japan; cDNA full insert sequencing: Research Association for Biotechnology; cDNA library construction: Institute of Medical Science, University of Tokyo, Laboratory of Genome Structure, Human Genome Center; cDNA 5'- & 3'-end one pass sequencing and clone selection: Helix Research Institute (supported by Japan Key Technology Center etc.).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Direct Submission
GAGGCAGCCGGCCCCGAGCCCCTCCCGAGGCCCAGCCCCTCACCACCCCCCACCGCCTGGC 1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGCCGCTGGACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGGTGTGGGTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGAGCGGTCTCATACCGGGCCCAGCAGGGGGACACGCGGCGGCAGTGCGGAAGATGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGCACCTCCTCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGCCGCTGGACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTAGTGGACTACCTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCTCAGCATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGA
                                                                                                         AACCTCAGCATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGA 1009
                                                                                                                                                                                                                      TTCCTCATCACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTT
                                                                                                                                                                                                                                                                                                                                                 TCCGGGGGGCAGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTAC
                                                                                                                                                                                                                                                                                                                                                                                                CTGGTGTGGGTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGAGCGGTCTCATACCGGGCCCAGCAGGGTGACACGCGGCGGGCAGTGCGGAAGATGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGCACCTCCTCTGCCTTCAACATCGTGCCCATCAGCTACGACCGCTTCCTGTCGGTCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /codon_start=1/protein_id="BAC11167.1"
/protein_id="BAC11167.1"
/db_xref="GG1:2750363"
/txanslation="MLLVWVLAFLLYGPAILSWEYLSGGSSIPEGHCYABFFYNWYFL
/txanslation="MLLVWVLAFLLYGPAILSWEYLSGAEBAGGBEPPEAGPSPPPPG
/TASTLEFFTPFLSVTFFNLSIYLNIQRTRLBLDGAAEBAGGBEPPEAGPSPPPPG
CWGCWQXGHGEAMPLHRXVAKSLAVUSIFGLCWAPYTLLMIRAACHGHCVPDYWYE
TSFWLLWANSAVNPVLYPLCHHSFRRAFTKLLCPQXLKIQPHSSLEHCWK"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /cell_type="teratocarcinoma"
/clone_lib="NT2RM2"
/note="cloning vector: pME18SFL3-mRNA from uninduced
neuronal_precursor cells"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
/clone="NT2RM2001941"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  note="unnamed protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                _line="NT2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ٥,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 1636.2; DE Pred. No. 4.1e-210; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                     420
                                                                              480
                                                                                                                                                                                                                                    949
                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                 889
                                                                                                                                                                                                                                                                                                                                                                                                                                                     829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60
                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2
```

_	2150 CCACCAACTCTCTCTGCCCCCAAAAGTGTCAAGGGGCCCTAGGAACCTCGAAGCTGTTCT 2209	Ş
BOUTCE	1320 TGCCTTTGCTGCTCTGTCTCTTGCATAAGCCTCAGGCCTGGCCCCTTTCACCCCTCTTC 1379	DЪ
FT exon	2090 TGCCTTTGCTGCCTTCTGTCTTGCATAAGCCTCAGGCCTGGCCCTTTCACCCCTCTTC 2149	ş
121	2030 ACCTGCACACCCCTGCACACCCTGCACACCGTCCCCCGGACAAGCCCAGGACAC 2089	<u> </u>
PI KBI PI KBNI PI YUSU PC C12N	1970 CAAGCACCTGGGTGTGCTCCAGGCTTCCTGCCCTAGCAGTTTGCCTCTGCACGTGCACAC 2029	B 8
	1910 GCTGCCCACCCCCTGCTGGTGCCCACCCTTCGCAGTTACTGGTTGGT	8 8
recepAL Pates BANYI	1850 CGGCCCTGCCCCCACATTCTGGCTCCACCGGGAAGGAACAGTCTGGAGGTCCCAGACAT 1909 	유 성
REFERENCE 1 (bases AUTHORS Itaya,K., Hidaka, TITLE Novel cua	1790 GAGGCGCCTTCCTGGGTTGGCCAGAGGGCCCCTCACTGGCTGG	ß 8
MS MS	1730 GGGGTGAGCCCCGCCGTGTCTGTGGCCCTCTCTTAATGCCACGGCAGCCACCCTGCCATG 1789	유 성
	1670 TCTCAGCCCAGGTCTCCTGGGCATCTGGCCCCTACCCGGCTCGTTCCCCCA 1729	용 성
RESULT 13 E39817 LOCUS E39817 DEFINITION Novel qua	1610 AGCTCCCTGGAGCACTGCTGGAAGTGAGTGGCCCACCAGAGCCTCCCTC	₿ გ
	1550 AGCTTCCGCCGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCAC 1609	B 8
1800	1490 TTCTGGCTCCTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCAC 1549	유 성
1740	1430 ATGATCATCCGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCC 1489	B 8
	1370 AAGTCGCTGGCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGGCCCCATACACGCTGCTG 1429	유 왕
Db 1620 CTGCTTC	1310 AAGATGGTGTCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGAAAGTGGGCC 1369	8 &
1560	587 586	문 5
Qy 2330 GCAGGTG		? 문
	GGCTCCGTGGCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGGCACTGAGAGGCCG	8
Db 1440 CTGCTTT	1130 GGTGAGGCGGCCGTAGGCGCTGAGGCCGGGGGACCCTCGGGGGGTGGCGGTGGGGGC 1189	§ §
1380	1070 TGCTGGGGCTGCTGGCAGAAGGGGCACGGGGAGGCCATGCCGCTGCACAGGTATGGGGTG 1129 	8 8

```
1 GI:18627098
1189171-A/12.
piens (human)
                                                                                                                                                                                                                                                                                               r protein

JP 2000189171-A 12 11-JUL-2000;

HARMACEUT CO LTD

mo sapiens (human)

2000189171-A/12
                                                                                                                                                                                                                                                                                                                                                                                    ta; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; a; Eutheria; Primates; Catarrhini; Hominidae; Homo. e 1 to 1893)

Takimura, T., Nakamura, T., Kobayashi, M., Tana, K., Y. and Ota, M.

Y. and Ota, M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1893 bp DNA linear PAT 31-c
wanosine triphospate (GTP)-binding protein-conjugate
c protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTGGGATGTTTAATCAAGAGAGACAAAATTGCTGAGGAGCTCAGGGCTGGATTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .
P21/02,C12Q1/02,G01N33/15,G01N33/566,C12N15/00,C12N5/00 CC
                                                                                                                                                                                                                        JUL-2000
MAY-1999 JP 1999145661
DEC-1998 WO PCTUP9805967
ITAYA,TETSUO TAKIMURA,TAKAO NAKAMURA,MASAHIKO KOBAYASHI,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTGCCCACCCCGCCTCTGGGCTCACACCAGCCCTGGTGGCCAAGCCTGCCCCGG 2449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTGGGCTCCCACGCCTCCTCCCTCCGCTAAGGCTTCCGGCTGAGCTGTGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTGGGATGTTTAATCAAGAGAGACAAAATTGCTGAGGAGCTCAGGGCTGGATTG
                                                                                                                                                                   UKE HIDAKA,MASAKI OTA
N15/09,A61K45/00,C07K14/705,C12N1/15,C12N1/19,C12N1/21, PC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGCCCACCCCGCCTCTGGGCTCACACCAGCCCTGGTGGCCAAGCCTGCCCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTCCATTCTGGGTGTTTTCAGAAAGATGAAGAAGAAAACATGTCTGTGAACTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGTCCCAAGGCGTGCAGGGGCCGGTCCAGAGGAGGTGCCCGGGCAGGGGCCGCTT 2569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTCCATTCTGGGTGTTTTCAGAAAGATGAAGAAGAAAAACATGTCTGTGAACTTG
                                                   Location/Qualifiers (293)..(1209).
/organism="Homo sapiens"
/mol_type="genomic DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PAT 31-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2269
```

1275

```
Ś
                                                S
                                                                          밁
                                                                                            Ś
                                                                                                                      멍
                                                                                                                                       δ
                                                                                                                                                                 밁
                                                                                                                                                                              5
                                                                                                                                                                                                   밁
                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                    덩
                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                          유
                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           당
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 1615; Conserv
                                                                                                                                            1459
                                                     1579
                                                                            1096
                                                                                                                       1036
                                                                                                                                                                                                                                                                                                                                                                1159
             1639
                                                                                                 1519
                                                                                                                                                                                        1399
                                                                                                                                                                                                                                  1339
                                                                                                                                                                                                                                                                            1279
                                                                                                                                                                                                                                                                                                                      1219
                                                                                                                                                                                                                                                                                                                                                                                                           1099
                                                                                                                                                                                                                                                                                                                                                                                                                                                     1039
                                                                                                                                                                  976
                                                                                                                                                                                                            916
                                                                                                                                                                                                                                                      856
                                                                                                                                                                                                                                                                                                 796
                                                                                                                                                                                                                                                                                                                                           736
                                                                                                                                                                                                                                                                                                                                                                                      676
                                                                                                                                                                                                                                                                                                                                                                                                                                616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     859
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTTCCGCCCCGCCCTGACCAGCCTGCCCTTCTGCAGGTCTCATACCGGGCCCAGCAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTCATACCGGGCCCAGCAGGG
                               CAACCCTGTCCTCTACCCTCTGTGCCACCACGAGCTTCCGCCGGGGCCTTCACCAAGCTGCT
                                                                                                                     CTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTCCTGTGGGCCAACTCGGCTGT
                                                                                                                                                                                                           CTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTGGCCGTCATCGTGAGCATCTT
                                                                                                                                                                                                                                                                                                CGGCAGCTCCTCGAGGGGCACTGAGAGGCCCCCCCTCAAGAGGGGCTCCAAGCCATC
                                                                                                                                                                                                                                                                                                                                          GGAGGCCATGCCGCTGCACAGGTATGGGGTGGGTGAGGCCGGTAGGCGCTGAGGCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                           GGCCCAGCCTCACCACCCCCACCGCCTGGCTGGCTGGGGCTGCTGGCAGAAGGGGCACGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCCGCCCCGAGCCCCCTCCCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCATCTACCTGAACATCCAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCACGGCTTCCACCCTGGAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCACGGCTTCCACCCTGGAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGCAGCTCCATCCCCGAGGGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGCAGCTCCATCCCCGAGGGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGACACGCGGCGGCAGTGCCGGAAGATGCTGCTGGTGTGGGTGCTGGCCTTCCTGCTGTA
GGCCCACCAGAGCCTCCCTCAGCCACGCCTCTCTCAGCCCAGGTCTCCTGGGCATCTGGC
                                                                          CAACCCTGTCCTCTACCCTCTGTGCCACCACAGCTTCCGCCGGGCCTTCACCAAGCTGCT
                                                                                                                                  CTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTCCTGTGGGCCAACTCGGCTGT
                                                                                                                                                                  TGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATCCGGGCCGCCTGCCATGGCCA
                                                                                                                                                                             TGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATCCGGGCCGCCTGCCATGGCCA
                                                                                                                                                                                                                                                       GGCGTCCTCGGCCTCACTGGAGAAGCGCATGAAGATGGTGTCCCAGAGCTTCACCCAGCG
                                                                                                                                                                                                                                                                   GGCGTCCTCGGCCTGGAGAAGCGCATGAAGATGGTGTCCCAGAGCCTTCACCCAGCG
                                                                                                                                                                                                                                                                                                                  GCCCAGCCTCACCACCCCCACCGCCTGGCTGCTGGGGCTGCTGGCAGAAGGGGCACGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCGCACCCGCCTCCGGATGGGGCTCGAGAGGCAGCCGGCCCCGAGCCCCCTCCCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCATCTACCTGAACATCCAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        58.9%; ilarity 98.5%; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 1590.2; DB 6;
Pred. No. 7.4e-207;
0; Mismatches 23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                      1638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1038
                                                                                                                                            1518
                                                                                                                                                                  1035
                                                                                                                                                                                        1458
                                                                                                                                                                                                                                                                                                                                                                                                           1158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     375
            1698
                                  1215
                                                                            1155
                                                                                                 1578
                                                                                                                      1095
                                                                                                                                                                                                            975
                                                                                                                                                                                                                                1398
                                                                                                                                                                                                                                                                            1338
                                                                                                                                                                                                                                                                                                                      1278
                                                                                                                                                                                                                                                                                                                                                                1218
                                                                                                                                                                                                                                                                                                                                                                                                                                                     1098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               315
                                                                                                                                                                                                                                                       915
                                                                                                                                                                                                                                                                                                 855
                                                                                                                                                                                                                                                                                                                                           795
                                                                                                                                                                                                                                                                                                                                                                                      735
                                                                                                                                                                                                                                                                                                                                                                                                                                675
                                                                                                                                                                                                                                RESULT 14
AR559681
LOCUS
DEFINITION
ACCESSION
                                                                                                                                                                                     SOURCE
ORGANISM
                                                                                                JOURNAL
FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                            VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                             당. 성
                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                          유정
                                                                                                                                                                                                                                                                                                                                                                                                                                   뮹
                                                                                                                                                                                                                                                                                                                                                                                                                                                           á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                  REFERENCE
           Query Match
Best Local Similarity
Matches 1615; Conserv
                                                                                                                                  TITLE
                                                                                                                                                       AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1819
                                                                                                                                                                                                                                                                                                                                                                                                 1755
                                                                                                                                                                                                                                                                                                                                                                                                                     2179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                2119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1276
                                                                                                                                                                                                                                                                                                             1875
                                                                                                                                                                                                                                                                                                                                                     1815
                                                                                                                                                                                                                                                                                                                                                                           2239
                                                                                                                                                                                                                                                                                                                                                                                                                                           1695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1216
                                                                                                                                                                                                                               AR559681
Sequence
AR559681
                                                                                                                                                                                      Unknown.
Unknown.
                                                                                                           proteins
Patent: l
                                                                                                                               1 (bases 1 to 1893)
Itadani,H., Takimura,T., Nakamura,T.,
Hidaka,Y. and Ohta,M.
Guanosine triphosphate (GTP) binding I
                                                                                                                                                                                                                      AR559681.1
                                                                                                                                                                            Unclassified.
                                                                                                                                                                                                                                                                                                           CAAAATTGCTGAGGAGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTCTTAATGCCACGGCAGCCACCCTGCCATGGAGGCGCCTTCCTGGGTTGGCCAGAGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCTGCTGCCCCCTACCCGGCTCGTTCCCCCCAGGGGTGAGCCCCGGCCGTGTCTGTGGCCCT
                                                                                                                                                                                                                                                                                                                                                                 AGATGAAGAAGAAACATGTCTGTGAACTTGATGTTCGTGGGATGTTTAATCAAGAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                            CAAGGGGCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTTCCATTCTGGGTGTTTTTCAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGTCCCTCTCCCCCGGACAAGCCCAGGACACTGCCTTTTGCTTTCCTTTTTGCATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCCTAGCAGTTTGCCTCTGCACGTGCACACCTGCACACCCCTGCACACCCCTGCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCCCTAGCAGTTTGCCTCTGCACGTGCACACCCTGCACACCCCTGCACACCCTGCACAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCGCAGTTACTGGTTGGTTCTTCCCAAAGCAAGCACCTGGGTGTGCTCCAGGCTTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCGCAGTTACTGGTTGGTGTTCCTTCCCAAAGCAAGCACCTGGGTGTGCTCCAGGCTTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCTGCTGCCCCTACCCGGCTCGTTCCCCCAGGGGTGAGCCCCGCCGTGTCTGTGGCCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGCCCACCAGAGCCTCCCTCAGCCACGCCTCTCTCAGCCCAGGTCTCCTGGGCATCTGGC
                                                                                                                                                                                                                                                                                                                                                     AGATGAAGAAGAAAACATGTCTGTGAACTTGATGTTCCTGGGATGTTTAATCAAGAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                  CAAGGGGCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTCCATTCTGGGTGTTTTTCAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGTCCCTCTCCCCGGACAAGCCCAGGACACTGCCTTTGCTGCCTTCTTGTCTTGCATA
             Conservative
                                                                                                US 6750322-A 13 15-JUN-2004;
Location/Qualifiers
                                                                                                                                                                                                                                            13
                                                              /organism="unknown"
/mol_type="genomic
                                                                                       1. .1893
                                                                                                                                                                                                                       GI:53969737
                                                                                                                                                                                                                                             from
                     58.9%;
                                                                                                                                                                                                                                            patent
          ; Score 1590.2; ; Pred. No. 7.4e-
0; Mismatches
                                                                                                                                                                                                                                                                                                              1893
                                                                                                                                                                                                                                            1893
US 67
                                                                                                                                                                                                                                           193 bp
16750322.
                                                                   DNA"
                       .4e-207;
                                                                                                                                                                                                                                                       DNA
                                DB 6;
                                                                                                                                  protein-coupled
                                                                                                                                                     Kobayashi, M., Tanaka, K.-I.,
                                                                                                                                                                                                                                                        linear
                               Length
                                   1893;
                                                                                                                                                                                                                                                        PAT
            ۲.
                                                                                                                                  receptor
                                                                                                                                                                                                                                                        08-OCT-2004
             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1758
```

2298 1814 2238 1754

1874

۳.

1694 2118

2178

```
S
                                                                                                                                                                                      밁
                                                                                                                                                                                                      S
                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                ঠ
                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                á
                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                            당
                     В
                                     δ
                                                              ₽
                                                                            ş
                                                                                                 밁
                                                                                                                      Ş
                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
   1759
                      1276
                                                              1216
                                                                                                        1156
                                                                                                                                                1096
                                                                                                                                                                                         1036
                                                                                                                                                                                                             1459
                                                                                                                                                                                                                                                     1399
                                                                                                                                                                                                                                                                                                                                     1279
                                          1699
                                                                                   1639
                                                                                                                           1579
                                                                                                                                                                    1519
                                                                                                                                                                                                                                                                                              1339
                                                                                                                                                                                                                                                                                                                                                                              1219
                                                                                                                                                                                                                                                                                                                                                                                                                      1159
                                                                                                                                                                                                                                                                                                                                                                                                                                                               1099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1039
                                                                                                                                                                                                                                976
                                                                                                                                                                                                                                                                         916
                                                                                                                                                                                                                                                                                                                   856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    616
                                                                                                                                                                                                                                                                                                                                                                                                   736
                                                                                                                                                                                                                                                                                                                                                                                                                                            676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 859
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             679
                                                                            GGCCCAGAGAGCCTCCCTCAGCCACGCCTCTCTCAGCCCAGGTCTCCTGGGCATCTGGC
                                                                                                                                                                                                                                           TGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATCCGGGCCGCCGCCTGCCATGGCCA 1458
                                                                                                                                                                                                                                                                                   CTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTGGCCGTCATCGTGAGCATCTT
                                                                                                                                                                                                                                                                                                                             GGCGTCCTCGGCCTCGCTGGAGAAGCGCATGAAGATGGTGTCCCAGAGCTTCACCCAGCG
                                                                                                                                                                                                                                                                                                                                                                                                 GCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCCGGCCCCGAGCCCCCTCCCGA 1038
                                                                                                                                              CAACCCTGTCCTCTACCCTCTGTGCCACCACAGCTTCCGCCGGGCCTTCACCAAGCTGCT
                                                                                                                                                                                                    CTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTCCTGTGGGCCAACTCGGCTGT
                                                                                                                                                                                                                                                                                                                GCCTCCTCGGCCTCACTGGAGAAGCGCATGAAGATGGTGTCCCAGAGCTTCACCCAGCG
                                                                                                                                                                                                                                                                                                                                                         GGAGGCCATGCCGCTGCACAGGTATGGGGTGGGGTGAGGCGGCGGTAGGCGCTGAGGCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGCCCAGCCTCACCACCCCCACCGCCTGGCTGGGGGCTGCTGGCAGAAGGGGCACGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCATCTACCTGAACATCCAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCACGGCTTCCACCCTGGAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGCAGCTCCATCCCCCGAGGGCCA
  CTCTTAATGCCACGGCAGCCACCCTGCCATGGAGGCGCCTTCCTGGGTTGGCCAGAGGGC
                      CCTGCTGCCCCTACCCGGCTCGTTCCCCCAGGGGTGAGCCCCGCCGTGTCTGTGGCCCCT
                                   CCTGCTGCCCCTACCCGGCTCGTTCCCCCAGGGGTGAGCCCCGCCGTGTCTTGTGGCCCT
                                                              GGCCCACCAGAGCCTCCGCCACGCCTCTCTCAGCCCAGGTCTCCTGGGCATCTGGC
                                                                                                                          CTGCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTGGAGCACTGCTGGAAGTGAGT
                                                                                                                                                                    CAACCCTGTCCTCTACCCTCTGTGCCACCACCAGCTTCCGCCGGGCCTTCACCAAGCTGCT
                                                                                                                                                                                                                                TGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATCCGGGCCGCCTGCCATGGCCA
                                                                                                                                                                                                                                                                         CTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTGGCCGTCATCGTGAGCATCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGAGGCCATGCCGCTGCACAGGTATGGGGTGGGTGAGGCGGCCGTAGGCGCTGAGGCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCCGGCCCCGAGCCCCCTCCCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCATCTACCTGAACATCCAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCACGGCTTCCACCCTGGAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGCAGCTCCATCCCCGAGGGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGACACGCGGCGGCAGTGCGGAAGATGCTGCTGGTGTGGGTGCTGGCCTTCCTGCTGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGACACGCGGCGGCAGTGCCGGAAGATGCTGCTGCTGTGGGTGCTGGCCTTCCTGCTGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTTCCGCCCCGCCCCTGACCAGCCTGCCCTTCTGCAGGTCTCATACCGGGCCCAGCAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTCATACCGGGCCCAGCAGGG
                                                                                                                           1638
                                                                                                                                                                   1578
  1818
                      1335
                                          1758
                                                              1275
                                                                                   1698
                                                                                                       1215
                                                                                                                                               1155
                                                                                                                                                                                       1095
                                                                                                                                                                                                             1518
                                                                                                                                                                                                                                1035
                                                                                                                                                                                                                                                                                                                                     1338
                                                                                                                                                                                                                                                                                                                                                                              1278
                                                                                                                                                                                                                                                                                                                                                                                                                      1218
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1098
                                                                                                                                                                                                                                                                         975
                                                                                                                                                                                                                                                                                              1398
                                                                                                                                                                                                                                                                                                                 915
                                                                                                                                                                                                                                                                                                                                                         855
                                                                                                                                                                                                                                                                                                                                                                                                   795
                                                                                                                                                                                                                                                                                                                                                                                                                                           735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          738
                                                                                                                                                        JOURNAL
REFERENCE
                                                                                                                                                                                                                                                                                            LOCUS
DEFINITION
ACCESSION
                                                                                                                                                                                                                                                    SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                          RESULT 15
AY231164
                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                멼
                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                        KEYWORDS
                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                    VERSION
                                                                                                                                   AUTHORS
                                                                                                                                                                                        TITLE
                                                                                                                           JOURNAL
                                                                                                                                                                                                  AUTHORS
                                                   gene
                                 Sg
                                                                                           source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1456
                                                                                                                                                                                                                                                                                                                                                                    1875
                                                                                                                                                                                                                                                                                                                                                                                       2299
                                                                                                                                                                                                                                                                                                                                                                                                            1815
                                                                                                                                                                                                                                                                                                                                                                                                                                                     1755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1336
                                                                                                                                                                 Unpublished
/gene="HRH3"
/note="G protein-coupled receptor"
/codon_start=1
                                 122. .1459
                                         /gene="HRH3"
```

```
CCCTCACTGGCTGGACTGGAGGCTGGGCGGCCCTGCCCCCACATTCTGGCTCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAAAATTGCTGAGGAGCTC
                CAAAATTGCTGAGGAGCTC 2317
                                                                         CCGTCCCTCTCCCCCGGACAAGCCCAGGACACTGCCTTTTGCTGCCTTCTTTGCATA
                                                                                                                                                                                                                                                                                                                GCCCTAGCAGTTTGCCTCTGCACGTGCACACCCCTGCACACCCCTGCACACCTGCACA
                                                                                                                                                                                                                                                                                                                                  GCCCTAGCAGTTTTGCCTCTGCACGTGCACACCCCTGCACACCCCTGCACACCCTGCACA
                                                                                                                                                                                                                                                                                                                                                                                              TCGCAGTTACTGGTTGGTGTTCTTCCCAAAGCAAGCACCTGGGTGTGCTCCAGGCTTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                          C-GGGAGGGACAGTCTGGAGGTCCCAGACATGCTGCCCACCCCTGCTGGTGCCCACCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGGGGAGGGACAGTCTGGAGGTCCCAGACATGCTGCCCACCCCTGCTGGTGCCCACCCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGTCCCTCTCCCCGGACAAGCCCAGGACACTGCCTTTGCTGCCTTCTGTCTTGCATA
                                                                                                                                                                                                                                                                                                                                                                               TCGCAGTTACTGGTTGGTGTTCCTTCCCAAAGCAAGCACCTGGGTGTGCTCCAGGCTTCCT
                                                             <u>AGATGAAGAAGAAACATGTCTGTGAACTTGATGTTCCTGGGATGTTTAATCAAGAGAGA</u>
                                                                                                                                                                                      1893
                                                                                           2298
                                                                                                                          1814
                                                                                                                                                       2238
                                                                                                                                                                                       1754
                                                                                                                                                                                                                   2178
                                                                                                                                                                                                                                                    1694
                                                                                                                                                                                                                                                                                 2118
                                                                                                                                                                                                                                                                                                                  1634
                                                                                                                                                                                                                                                                                                                                                2058
                                                                                                                                                                                                                                                                                                                                                                               1574
                                                                                                                                                                                                                                                                                                                                                                                                             1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1395
                                                               1874
                                                                                                                                                                                                                                                                                                                                                                                                                                             1514
```

1 (bases 1 to 1600)
Yao, B. B., Sharma, R., Cassar, S., Esbenshade, T.A. and Cloning and Pharmacological Characterization of the Histamine H3 Receptor 1 AY231164 1 Macaca mulatta histamine AY231164 AY231164.1 GI:29124990 Submitted (07-FEB-2003) R-4MN, Abbott Park Road, Abbott Park, Location/Qualifiers Macaca mulatta (rhesus monkey)
Macaca mulatta Cassar, S., Esbenshade, T.A., Hancock, A.A. Direct Submission Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae; Cercopithecinae; Macaca. (bases 1 to 1600) /organism="Macaca mulatta' /mol_type="mRNA" /db_xref="taxon:9544" 1. .1600 .1600 1600 bp receptor IL 60064, Abbott Laboratories, AP9A, H3 mRNA RNA linear (HRH3) mRNA, and USA Yao, B PRI 19-MAR-2003 complete cds. Hancock, A.A. Monkey

ORIGIN

```
Query Match
Best Local Similarity
Matches 1536; Conserv
               957
                                                                                         897
                                                                                                                               660
                                                                                                                                                                     837
                                                                                                                                                                                                         600
                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   477
                                                   720
                                                                                                                                                                                                                                               777
                                                                                                                                                                                                                                                                                                                          717
                                                                                                                                                                                                                                                                                                                                                                480
                                                                                                                                                                                                                                                                                                                                                                                                    657
                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ш
                                                                                                                                                                                                         GCATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGGCTCGAGAGGCAG
                                                                         TCACGGCTTCCACCCTGGAGTTCTTTACGCCCCTTCCTCAGCGTCACCTTCTTTAACCTCA
                                                                                                                                                       GCAGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCA
                                                                                                                                                                                                                                                                                                                                                            CCTCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCATGGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCGCCACCTCTCGACTGGCGCCCTGCCCGCGTCCCGGAGCCGCTGAGCCTGCGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCCGCCCAGCTCTCGGCCGCGCCCCTGCCCCCGCGTGCAGCCCGCGTGAGCCTGCGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGAAACCCGACCCGGCCAAGGGCCCGCAAAGACGAGGCTCCCGGGGCCGGGGCCCCTCCCG
                                                                                                                               GCAGCTCCATCCCCGAGGGCCACTGCTACGCTGAGTTCTTCTACAACTGGTACTTCCTCA
                                                                                                                                                                                                                                                                                   TCTCATACCGGGCCCAGCAGGGTGACACGCGGCGGCAGTGCGGAAGATGCTGCTGGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTTGCACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACTTCCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGGCCGACTCGAGCCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCATGGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGCGGCGGGCGGGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGGCGGCGGGGGGGGGCGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTTGCTGGCCGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCATGGAGCGCCGCCCGACGGGCCGCTGAACGCTTCGGGGGCGCTGGCGGCGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGGAACCCCACCCGGCAAGGGCCCGCAAAGACGAGGCTCCCGGGCCCGGGCCCCCT-CCG
                                                   TCACGGCCTCCACCCTGGAGTTCTTCACGCCCTTCCTCAGCGTCACCTTCTTCAATCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                        GGACCTTCGGCCGGGCCTCTGCAAGCTGTGGCTGGTGGACTACCTGCTGTGCACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACTTCCTCGTGGGCGCCTTCTGCATCCCACTGTATGTGCCCTATGTGCTGACCGGCCGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGGCCGACTCGAGCCTCCGCACTCAGAACAACTTCTTCCTGCTCAACCTTGCCATCTCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /product="histamine receptor H3"
/protein_id="AA063757.1"
/protein_id="AA063757.1"
/db_xref="Gi1:29124991"
/translation="MERAPPDGPLNASGALAGEAAAAGGARGFSAAWTAVLAALMALL
/translation="MERAPPDGPLNASGALAGEAAAAGGARGFSAAWTAVLAALMALL
/translation="MERAPPDGPLNASGALAGEAAAAGGARGFSAAWTAVLAALMALL
/translation="MERAPPDGPLNASGALAGEAAAAGARAVRMLLW
/LAFLLYGPAILSWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFN
VLAFLLYGPAILSWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFN
VLAFLLYGPAILSWEYLSGGSSIPEGHCYAEGEAPPDGVGGGGEAWFLHRYG
VLAFLLYGPAILSWEYLSGGSGFPFPFBAGBSFFPGCWGCWCKGGEAWFLHRYG
VLAFLYGGAAGARAGETALGGGGGGGAASFTSSSSSGTTERFRSLKRGSKPSASSASASLE
KRMWYSOSFTORFRLSEDRKVAKSLAVIVSIFGLCWAFYTLLWIIRAACHGHCVPDY
WYETSFWLLWANSAVNFYLYPLCHHSFRRAFTKLLCPQKLKIQPHSSLEQCWK"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              55.1%;
95.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          °
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 1486.6; DB 9;
Pred. No. 9.4e-193;
0; Mismatches 64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          64; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1600;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                   779
                                                                                         956
               1016
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    236
                                                                                                                               719
                                                                                                                                                                   896
                                                                                                                                                                                                         659
                                                                                                                                                                                                                                               836
                                                                                                                                                                                                                                                                                     599
                                                                                                                                                                                                                                                                                                                          776
                                                                                                                                                                                                                                                                                                                                                                539
                                                                                                                                                                                                                                                                                                                                                                                                  716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  59
```

Search completed: June Job time : 11703.2 secs 2 2005, 10:53:01

유

유

g 5 뮍

성 유

S 밁 Ś 밁 Ş В Ó 밁 Ş В Ş

밁 5 밁 Ş 밁 S Б Ş

780

GCATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGGCTCGAGAGGCAG

```
Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Run
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 92:
Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                    2635.2
2635.2
2635.2
                   2635.2
2557.6
2149.2
1636.2
1636.2
1590.2
1590.2
1397.8
                                                                                                                                                                                                                                                                                                                                                                                                                                            Score
                                                                                                                                                                                                                                                                       2699
2699
2699
2699
2699
                                                                                                                                                                                                                                                                                                                                                                             2699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              length:
                                                                                                                                                                                                                                                                                                                                                                                                                                          Query
Match
                   1100.0
100.0
100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
1100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IDENTITY_NUC Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 June
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4390206 segs, 2959870667 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-10-727-021-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N_Geneseq_16Dec04:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                geneseqn2000s:*
geneseqn2001as:*
geneseqn2001bs:*
geneseqn2002as:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 geneseqn2003cs:*
geneseqn2003ds:*
geneseqn2004as:*
geneseqn2004bs:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   geneseqn2003bs:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     geneseqn1980s:*
geneseqn1990s:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             geneseqn2002bs:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           geneseqn2003as:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2, 2005, 04:43:59 ; Search time 1440.49 Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
GenCore version 5.1.6 (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                            BB
                                                                                                          4440
                                                                                                                                                                                                                                                                                               10
                                                                                                                                                                                                                                                                                                                ABZ42533
ACC59394
                                                                              ADD22860
ADQ89179
ADR31456
AAX02885
AAX59167
AAH44572
AAS16867
AAS76867
AAS62391
AAK94219
ADL30763
                                                                                                                                                                                                                                                                                                                                                       AAA09061
AAC62365
ABN84882
                     AAA70648
AAL59976
                                                                                                                                                                                                                                                                                                                                                                                                                                            IJ
                                                               AAX84582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (without alignments)
11091.610 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8780412
                 Aaa09061 Human his
Aac62365 Complete
Abn84882 Human his
Abz42533 Human his
Acc59394 Human his
Add22860 Human ful
Add2880 Human ful
Add288179 Human muc
Adr31456 Human mis
Aax02885 Human mCR
Aax59167 Human G p
Aah4572 Human mus
Abx11852 Human mus
Abx11852 Human ful
Aas62391 CDNA seque
Aak94219 Human ful
Ad310763 Full leng
Aax345882 G-protein
Aaa76848 Human G-p
Aaa159976 Human wil
                                                                                                                                                                                                                                                                                                                                                                                                                                          Description
Rat G pro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2699
```

45	44	43	42	41	40	39	38	37	36	S S	34	33	32	31	30	29	28	27	26	25	24	23	22	21
1072.2	1075.2	1082.6	1156	1178.6	1201.8	1204.8	1207.8	1208	1272.6	1303.8	1330.8	1331.8	1335	1335	1335	1335	1335	1336.4	1348.4	1358.8	1360.4	1360.4	1384.8	1384.8
39.7	39.8	40.1	42.8		44.5	44.6	44.7	44.8	47.2	48.3	49.3	49.3	49.5	49.5	49.5	49.5	49.5	49.5	50.0	50.3	50.4	50.4	51.3	51.3
1338	18105	1203	2145	1251	1953	2700	1311	2700	1293	1359	1334	1335	1335	1335	1335	1335	1335	1338	2483	2761	2050	2050	3244	3244
N	œ	9	σ	9	w	N	ø	ω	9	9	N	N	13	10	9	4	ω	12	12	10	w	N	80	2
AAH44575	ABZ82337	AAL59985	AAS76868	AAL59983	AAA70638	AAX84571	AAL59979	AAA70640	AAL59982	AAL59978	AAH44573	AAX02886	ADR31457	ADD22861	ACC59395	AAC62366	AAA09062	ADO29966	ADO30256	ABT42301	AAA70637	AAX84572	ABX11853	AAH44574
Aah44575 Rat musca	Abz82337 Mouse his	Human	Aas76868 DNA encod			Aax84571 G-protein	Aal59979 Human H3			Human	Human	Aax02886 Human mAC	7 Humai	Add22861 Human his	Acc59395 Human his			Ado29966 Human GPC	Ado30256 Mouse GPC	Abt42301 Toxicity	7			Aah44574 Rat musca

ALIGNMENTS

```
Human histamine H3 receptor cDNA.
                                                                                                                                                                                                            histamine H3 receptor; biogenic amine receptor homologue; ss.
                                                                                                                                                                                                                                     10-AUG-2000
                                                                                                                                                                                                                                                 AAA09061;
                                                                                                                                                                                                                                                              AAA09061 standard;
                                                               WPI; 2000-303632/26.
P-PSDB; AAY92218.
                                                                                                            07-OCT-1998;
                                                                                                                        07-OCT-1998;
                                                                                                                                     13-APR-2000.
                                                                                                                                                  WO200020011-A1.
                                                                                                                                                                                               Homo sapiens.
                                                                                   Lovenberg TW, Erlander M, Huvar
                                                                                               (ORTH ) ORTHO-MCNEIL PHARM INC.
                                                                                                                                                                                                                                     (first entry)
                                                                                                            98WO-US021090.
                                                                                                                         98WO-US021090.
                                                                                                                                                                           299. .1636
                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                              /product= "histamine_H3_receptor"
                                                                                                                                                                     /*tag=
                                                                                                                                                                                                                                                              CDNA; 2699
                                                                                                                                                                                                                                                               BP.
                                                                                   A
                                                                                   Pyati
```

The cDNA encodes the human histamine H3 receptor. The polypeptide contains the seven conserved hydrophobic domains and specific residues conserved in biogenic amine receptors. The human histamine H3 receptor polynucleotides and polypeptides are used in methods to screen for

Claim 2; Fig 1A-B; 54pp; English.

Novel human histamine H3 receptor polynucleotides and polypeptides used in methods to identify modulators of receptor activity.

3 8 8 9 8 9	A A A A A A A A A A A A A A A A A A A
121 CCCCTCTTCACCCCCGGCCCCCGGCCCCGGCCCCGGCGCGCCCGGCGCCCC	rs of receptor activity (claimed). Such agonists and antagonists e useful as research tools or may be used as therapeutics to sorders directly or indirectly involving histamine receptors). The characterization of the polynucleotide is useful for analysis, diagnostic applications, and epidemiological studies 2699 BP; 404 A; 988 C; 805 G; 502 T; 0 U; 0 Other; 2699 BP; 404 A; 988 C; 805 G; 502 T; 0 U; 0 Other; 100.0%; Score 2699; DB 3; Length 2699; Similarity 100.0%; Pred. No. 0; Gaps CCACGGGTCCGCCGGCTGCAGGCTCCGGCTCCCC 60 CCACGGGTCCGCCGGCTGCAGCAGCAGCTCCAGGCTCCAGGCTCCTCCC 60 CCACGGGTCCGCCGGCTGCAGCACCAGGCTCCAGGCTCCAGGCTCCTCCC 60 CCACGGGTCCGCCGCTGCCAGCTGCAGCAGCCGCCCCTCCGCA 12 GCTGCAGCAGCCGCGCTGCCGGCCCCACTGGGCTCCGGATCCGGCCCCCTCCGCA 12 GCTGCAGCAGCCGCCCCTCCGGCA 12
3 3 <td>8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8</td>	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
1201 TICACCACCTCCACCTCCACCTCCACCTCCACCTCCACCACC	

```
RRESULT 2
AAC62365
ID AAC6
XX AAC6
XX AAC6
XX LAC6
XX LAC6
XX Comp
XX Comp
XX Comp
XX Huma
XX US61
XX US61
XX US61
XX O7-0
XX ORT
                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                      8 8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                             뮍
                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                     중 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                     Human; histamine
                                                                                                                                                      Complete nucleotide
                                                                                                                                                                                                           AAC62365 standard;
                                                              07-OCT-1998;
                                                                                24-OCT-2000
                                                                                                                  Homo sapiens
                                                                                                                                                                        19-MAR-2001
         Lovenberg
                           (ORTH ) ORTHO
                                                                                                                                                                                                                                                         2641
                                                                                                                                                                                                                                                                          2641
                                                                                                                                                                                                                                                                                             2581
                                                                                                                                                                                                                                                                                                             2581
                                                                                                                                                                                                                                                                                                                                 2521
                                                                                                                                                                                                                                                                                                                                                 2521
                                                                                                                                                                                                                                                                                                                                                                   2461
                                                                                                                                                                                                                                                                                                                                                                                     2461
                                                                                                                                                                                                                                                                                                                                                                                                      2401
                                                                                                                                                                                                                                                                                                                                                                                                                        2401
                                                                                                                                                                                                                                                                                                                                                                                                                                          2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                           2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1981
                                                                                                                                                                                                                                                        GCTCACCCAGGACCTCTGGGGGGTTGTTGGGAGGGGGGCCCGGGCTGGGCCCCGAGGGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                 CACCCCGCCTCTGGGCTCACACCCAGCCCTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTCTGCCCCAAAAGTGTCAAGGGGCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTCCA
                                                                                                                                                                                                                                                                                            GTGCACCCGTGCCACGCGCTCTGCATGCTCCTCTGCCTGTGCCCGCTGCGCTGCA
                                                                                                                                                                                                                                                                                                              GTGCACCCGTGCCACGCGCTCTGCATGCTCCTCTGCCTGTGCCCGCTGCGCTGCCCTGCA
                                                                                                                                                                                                                                                                                                                                          CAAGGCGTGCAGGGGCGGTCCAGAGGAGGTGCCCGGGCAGGGGCCCGCTTCGCCATGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                         CTCCCACGCCTCCTCCCCTCCGCTAAGGCTTCCGGCTGAGCTGTGCCAGCTGCTTCTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTCCCACGCCCTCCTCCCTCCGCTAAGGCTTCCGGCTGAGCTGTGCCAGCTGCTTCTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATGTTTAATCAAGAGAGAAAATTGCTGAGGAGCTCAGGGCTGGATTGGCAGGTGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGTTTAATCAAGAGAGACAAAATTGCTGAGGAGCTCAGGGCTTGGATTGGCAGGTGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCTGGGTGTTTTCAGAAAGATGAAGAAGAAAAACATGTCTGTGAACTTGATGTTCGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTCTGCCCCAAAAGTGTCAAGGGGCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCTTCTGTCTCTGCATAAGCCTCAGGCCTGGCCCTTTCACCCCTCTTCCCACCAACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCTGCACACCTGCACACCGTCCCCTCTCCCCGGACAGCCCAGGACACTGCCTTTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCTGCACACACCTGCACACCGTCCCTCTCCCCGGACAAGCCCAGGACACTGCCTTTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTGTGCTCCAGGCTTCCTGCCCTAGCAGTTTGCCTCTGCACGTGCACACACCTGCACACC
                                                                                                                                                                                                                                                                                                                                 CAAGGCGTGCAGGGGCGGTCCAGAGGAGGTGCCCGGGCAGGGGCCGCTTCGCCATGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                       CACCCCCCCTCTGGGCTCACACCACCCCTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTCTGGGTGTTTTCAGAAAGATGAAGAAGAAAACATGTCTGTGAACTTGATGTTCGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCTTCTGTCTCTTGCATAAGCCTCAGGCCTGGCCCTTTCACCCCTCTTCCCACCAACTCT
          Ä
                                                                                                                                                                        (first
                           PHARM CORP
         Pyati J,
                                             98US-00167354
                                                             98US-00167354.
                                                                                                                                    H3
                                                                                                                                                                                                            CDNA; 2699
                                                                                                                                    receptor; inflammation;
                                                                                                                                                    sequence of cDNA encoding a histamine
                                                                                                                                                                        entry)
          Erlander
                                                                                                                                                                                                            ВP
         3
         Huvar
                                                                                                                                    allergy;
                                                                                                                                                      H3
                                                                                                                                                                                                                                                                         2699
                                                                                                                                                                                                                                                         2699
                                                                                                                                                                                                                                                                                            2640
                                                                                                                                                                                                                                                                                                              2640
                                                                                                                                                                                                                                                                                                                                2580
                                                                                                                                                                                                                                                                                                                                                 2580
                                                                                                                                                                                                                                                                                                                                                                   2520
                                                                                                                                                                                                                                                                                                                                                                                     2520
                                                                                                                                                                                                                                                                                                                                                                                                       2460
                                                                                                                                                                                                                                                                                                                                                                                                                       2460
                                                                                                                                                                                                                                                                                                                                                                                                                                          2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                           2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2040
                                                                                                                                                                                                                                                                                                                                                                                         Ş
                       ð
                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                               S
                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                        δ
                                           밁
                                                        ą
                                                                             멍
                                                                                             Ş
                                                                                                                  밁
                                                                                                                              Ş
                                                                                                                                                   뫄
                                                                                                                                                                     S
                                                                                                                                                                                        밁
                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                 문
                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local S
Matches 2699
```

```
Novel DNA molecules useful in gene therapy for the treatment inflammation or allergy, or for encoding a human histamine H3 and identifying histamine receptor modulators that are useful therapeutic and diagnostic agents.
                                                                                                                                                                                                           2001-023168/03
                                                                                     receptor
```

Claim 1; Fig 1A-B; 25pp; English

The present sequence represents the complete sequence of cDNA encoding a human histamine H3 receptor. The histamine H3 receptor DNA molecules are useful for isolating homologues of receptor, identifying and isolating genomic equivalents of receptor, and identifying, detecting or isolating mutant forms of the receptor. The DNA molecules are also useful in gene therapy for the treatment of inflammation or allergies. The human histamine H3 receptor protein is useful in identifying modulators of the human histamine H3 receptor, which in turn are useful as therapeutic and diagnostic agents

Sequence 2699 BP; 404 A; 988 C; 805 G; 502 T; 0 U; 0 Other;

В

4.

Length

Similarity

```
2699;
             661
                                             601
                                                                           601
                                                                                                           541
                                                                                                                                         541
                                                                                                                                                                         481
                                                                                                                                                                                                       481
                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGCCTGCTCTGGCCCCCGGCCCCCGGCCCCCGCGACCATGCGCTGGGCGCCCCCAGGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCTGCAGCAGCCGCGCTCGCCGGCCCCACTGGGCTCCGGATCCGGGCCCCCCGGCCCCCTCGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCACGCGTCCGCCGGCTGCACGGTCGCACCGGCAGCGGCTCAGGCTCCCGGCTCCTCTCCC
TGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTC
                                                                                                                                                                         CGACTCGAGCCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGACTT
                                                                                                                                                                                               CGACTCGAGCCTCCGCACACACACACTTCTTCCTGCTCAACCTTCGCCATCTCCCGACTT
                                                                                                                                                                                                                                                                  GGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTGGC
                                                                                                                                                                                                                                                                                                                                                                                           CCCAGCTCTCGGCCGGCGCCCTGCCCCGCGTCCCGGAGCCGGCGTGAGCCTGCGGGGCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCCGACCCGGCCAAGGGCCCGCAAAGACGAGGCTCCCGGGGCCCGGGCCCCTCCCGGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCTGCAGCAGCCGCCCGGCCCCCACTGGGCTCGGATCCGGCCCCCGGCCCCCTCGGCA
                                                            CTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCCTC
                                                                                                             CCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGGAC
                                                                                                                             CCTCGTCCGCCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGGAC
                                                                                                                                                                                                                                                                                                        GGCGGCGGGGGGGGGGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTCAT
                                                                                                                                                                                                                                                                                                                                       GGCGGCGGGGGGGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTCAT
                                                                                                                                                                                                                                                                                                                                                                      GGAGCGCGCCGCCCGACGGCCGCTGAACGCTTCGGGGGGCGCTGGCGGGGGATGCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                     CCCAGCTCTCGGCCGGCGCCCTGCCCCGCGTCCCGGAGCCGCGTGAGCCTGCGGGGCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCGCCTGCTCTGGCCCCGGCCCCGGGCCCCGGGGACCATGCGCTGGGCGCCCCCCAGGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCACGCGTCCGCCGGCTGCACGGTCGCACCGGCTCAGGCTCCGGCTCCTCTCCC
                                              CTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; illarity 100.0%; Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <u>,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 2699;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <u>,</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <u>.</u>.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
               720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                              660
                                                                              660
                                                                                                             600
                                                                                                                                           600
                                                                                                                                                                           540
                                                                                                                                                                                                          540
                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60
```

1800 1800 1860	1741 CGCCGTGTCTGTGGCCCTCTTAATGCCACGGCAGCCACCCTGCCATGGAGGCGCCTTC
1740 1740	681 GTCTCCTGGGCATCTGGCCCTGCTGCCCCCTACCCGGCTCGTTCCCCCAGGGGTGAGCCC
1680	1621 GCACTGCTGGAAGTGAGTGGCCCACCAGAGCCTCCCTCAGCCACGCCTCTCTCAGCCCAG
1620 1620	561 GGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTGGA
1560 1560	501 GTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCACAGCTTCCGCCG
1500 1500	441 GGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTCCT
1440 1440	1 CGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATCCG
1380 1380	321 CCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTGGC
1320 1320	261 GAGGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCGCTGGAGAAGCGCATGAAGATGGTGTC
1260 1260	01 TTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCGCTCACTCA
1200 1200	141 CGTAGGCGCTGAGGCCGGGGAGGCGACCCTCGGGGGTGGCGGTGGGGGGCGGCTCCGTGGC
1140 1140	081 CTGGCAGAAGGGGCACGGGGAGGCCATGCCGCTGCACAGGTATGGGGTGGGT
1080	1021 CCCCGAGCCCCTCCCGAGGCCCAGCCCTCACCACCGCCTGGCTGG
1020 1020	CCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCCGG
960	1 GGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCAT
900	TGCCGAGTTCTTCTACAACTGGTACTTCCTCATCAC
840 840	781 GCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGCAG
780 780	11 ATACCGGGCCCAGCAGGGTGACACGCGGCGGGGGGCAGTGCGGAAGATGCTGCTGGTGTGTGT

g Qy	₽ \$	망	VQ.	₽ \$	\$ 8	ş 8	ф	Ş	ф	Qy	Вb	γQ	đđ	Ş	gg	Qy	рb	Qy	ф	γQ	В	γQ	da	Q	Дb
2641 AJ 2641 AJ	2581 GTG	521	2521 CI	61	101	401	2341 (7	2341 C1	2281 AI	2281 AJ	2221 T	2221 T	2161 C	2161 C	2101 CC	2101 CC	2	2041 CC	1981 G	1981 G7	1921 CC	1921 CC	1861 CC	1861 CC	1801 (7
CCGTGAGGI	GCACCCGTG	AGGCGTGC	AGGCGTGC	TCACCCAGO		CCCCGCCTC	cccAcccc	CCCACGCC	GTTTAATCA	GTTTAATCA	CTGGGTGT	CTGGGTGT	CIGCCCCC	CTGCCCCC	TICIGICIC	TTCTGTCTC	TGCACACAC	TGCACACAC	GIGCICCAC	GTGCTCCAC	TGCTGGTGC	CCTGCTGGTGCCC	CACATTOTO	CACATTCTO	GGGTTGGCC
CACAATAAA CACAATAAA	CCACGCGCT	GGGGCGGTC	GGGGCGGTC	ACCTCTGGG	TOGGCT CAC	TGGGCTCAC	TCCTCCCTC	TCCTCCCTC	AGAGAGACA	AGAGAGACA	TTCAGAAAG	TTCAGAAAG	AAAGTGTCA	AAAGTGTCA	TTGCATAAG	TTGCATAAG	CTGCACACC	CTGCACACC	GCTTCCTGC	GCTTCCTGC	CCACCCTTC	CCACCCTTC	GCTCCACCG	GCTCCACCG	
GTGTATTTT GTGTATTTT	CIGCAIGCI	CAGAGGAGG	CAGAGGAGG	GGTTGTTGG		ACCAGCCCT	CGCTAAGGC	CGCTAAGGC	AAATTGCTG	AAATTGCTG	ATGAAGAAG	ATGAAGAAG	AGGGGCCCT	AGGGGCCCT	CCTCAGGCC	CCTCAGGCC	GTCCCTCTC	GTCCCTCTC	CCTAGCAGT	CCTAGCAGT	GCAGTTACT	GCAGTTACT	GGGAGGGAC	GGGAGGGAC	!
AACCGTGAGGTCACAATAAAGTGTATTTTTTAAAAAAAAA	CACCCGTGCCACGCGCTCTGCATGCTCTCTGCCTGTGCCCGCTGCGCTGCCCTGCACCTGCC	TGCCCGGGC	CAAGGCGTGCAGGGGCGGTCCAGAGGAGGTGCCCGGGCAGGGGCCGCTTCGCCATGTG	GCTCACCCAGGACCTCTGGGGGGTTGTTGGGAGGAGGGGCCCGGCTGGGCCCGAGGGTC	SECTION SECTION	CACCCCCTCTGGGCTCACACCAGCCCTGGTGGCCAAGCCTGCCCGGCCACTCTGTTTT	TTCCGGCTG	CTCCCACGCCCTCCTCCCTCCGCTAAGGCTTCCGGCTGAGCTGTGCCAGCTGCTTCTGCC	AGGAGCTCA	ATGTTTAATCAAGAGAGACAAAATTGCTGAGGAGCTCAGGGCTGGATTGGCAGGTGTGGG	TTCTGGGTGTTTTCAGAAAGATGAAGAAGAAAACATGTCTGTGAACTTGATGTTCGTGGG	AAAACATGT	CTCTGCCCCAAAAGTGTCAAGGGGCCCTAGGAACCTCGAAGGTGTTCTCTGCTTTTCCA	AGGAACCTC	CTTCTGTCTCTTGCATAAGCCTCAGGCCTGGCCCTTTCACCCCTCTTCCCACCAACTCT	TGGCCCTTT	CCCGGACAA	CTGCACACACCTGCACACCGTCCCTCTCCCCCGGACAAGCCCAGGACACTGCCTTTTGCTG	TTGCCTCTG	TGTGCTCCAGGCTTCCTGCCCTAGCAGTTTGCCTCTGCACGTGCACACACCTGCACAC	GGTTGGTGT	CACCCTTCGCAGTTACTGGTTGGTGTTCTTCCCAAAGCAAGC	AGTCTGGAG	CCCACATTCTGGCTCCACCGGGGAGGGACAGTCTGGAGGTCCCAGACATGCTGCCCAC	
AAAAAAAA 	ereccect	AGGGGCCGC	AGGGGCCGC	GCCCGGCTG	COLOCOLOGO COLOCOLOGO	GCCTGCCCC	AGCTGTGCC	AGCTGTGCC	GGCTGGAT	GGGCTGGAT	CTGTGAACT	CTGTGAACT	GAAGCTGTT	GAAGCTGTT	CACCCCTCT	CACCCCTCT	GCCCAGGAC	GCCCAGGAC	CACGTGCAC	CACGTGCAC	TCTTCCCAA	TCTTCCCAA	GTCCCAGAC	GTCCCAGAC	 eccrecere
AAAAAAAA 		TTCGCCATG	TTCGCCATG	GGCCCGAGG		GGCCACTCT	AGCTGCTTC	AGCTGCTTC	TGGCAGGTG	TGGCAGGTG	TGATGTTCG	TGATGTTCG	CTCTGCTTT	CTCTGCTTT	TCCCACCAA	TCCCACCAA	ACTGCCTTT	ACTGCCTTT	ACACCTGCA	ACACCTGCA	AGCAAGCAC	AGCAAGCAC	ATGCTGCCC	ATGCTGCCC	
AAA 2699 AAA 2699	1 264	CT 258	r 258	C 252	2 2 2	246	240	240	234	234	228	228	222	222	216	216	210	GCTG 210	C 204	C 204	198	198	CC 192	CC 192	CC 186
	0 0	• •	0	0 (5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	٥.	0	0	0	0	0

B & B & B & B & A

유 성 유

8 8 8 8 8

유왕

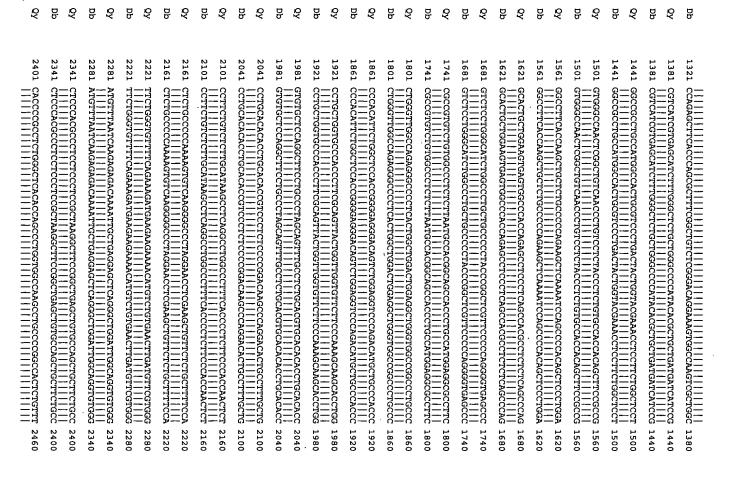
RESULT 3
ABN84882
ID ABN84882 standard; cDNA; 2699 BP.

XX
AC ABN84882;
XX
DT 15-NOV-2002 (first entry)
XX
DE Human histamine H3 receptor cDNA.
XX
KW Histamine; receptor; G-protein coupl
Cardiant; antidepressant; tranquilli
KW hypotensive; analgesic; antidiabetic Histamine; receptor; G-protein coupled receptor; human; neuroprotective; cardiant; antidepressant; tranquillizer; antiparkinosinian; anorectic; hypotensive; analgesic; antidiabetic; laxative; antiarrythmic; antiulcer;

Ş 망 S

```
CC histamine H3 receptor, a novel G-protein coupled receptor. The Clone was C isolated from a human thalamus CDNA library using a histamine H3 receptor CC probe. Histamine H3 receptor CDNA has been expressed in recombinant host C cells, which produced active recombinant protein. H3 receptor uncleic code and proteins can be used to identify modulators of H3 receptor c central nervous system disorders, such as depression, anxiety, psychoses (e.g. schizophrenia), tardive dyskinesia, Parkinson's disease, obesity, hypertension, Tourette's syndrome, sexual dysfunction, drug addiction, CC drug abuse, cognitive disorders, Alzheimer's disease, senile dementia, CC obsessive-compulsive behaviour, panic attacks, pain, social phobias, CC eating disorders and anorexia, cardiovascular and cerebrovascular CC disorders, non-insulin dependent diabetes mellitus, hyperglycaemia, CC constipation, arrhythmia, disorders of the neuroendocrine system, stress and spasticity, as well as acid secretion, ulcers, airway constriction, CC asthma, allergy, inflammation and prostate dysfunction. Histamine H3 creeptor DNA molecules are also useful for isolating related sequences, isolating mutant forms of DNA, and in gene therapy
                                                                                                                                                                                                                                                                                                       Query Match
Best Local S
Matches 2699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Novel isolated and purified DNA molecule encoding human histamine H3 receptor protein, useful for identifying modulators of human histamine receptor protein activity.
                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   07-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21-AUG-2000; 2000US-00642855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Example 3; Fig 1A-B; 25pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (ORTH ) ORTHO PHARM CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US6413743-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     antiallergic;
                                                                                                                                                                                                                                                                                                                           Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           present sequence is that of cDNA clone pH3R coding for human
                                                                                                                                                                                                                                                                                                         2699;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2002-641560/69.
                    181
                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sapiens
                                                                                         121
                                                                                                                          121
                                                                                                                                                             61
                                                                                                                                                                                               61
                                                                                                                                                            GCTGCAGCAGCCGCCCGGCCCCACTGGGCTCCGGATCCGGCCCCCGGCCCCCTCGGCA
                                                                                                                                                                                    GCTGCAGCAGCCGCGCTGCCGGCCCCACTGGGCTCGGATCCGGCCCCGGCCCCCCTCGGCA
                                                                                                                                                                                                                                  CCACGCGTCCGCCGGCACGGTCGCACCGGCAGCGGCTCCAGGCTCCCGGCTCCTCTCCCC
                                                                                                                                                                                                                                                                    CCACGCGTCCGCCGCACGGTCGCACCGGCAGCGGCTCAGGCTCCGGCTCCTCTCCC
                                                                                                                                                                                                                                                                                                                                                                             2699 BP;
                                                                                                               CCGCCTGCTCTGGCCCCGGCCCCGGCCCGGGACCATGCGCTGGGCGCCCCCCAGGGGAA
                    ACCCGACCCGGCCAAGGGCCCGCAAAGACGAGGCTCCCGGGCCCGGGCCCCTCCCGGCCG
                                                       ACCCGACCCGGCCAAGGGCCCGCAAAGACGAGGCTCCCGGGCCCGGGGCCCCTCCCGGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             W.
                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    antiinflammatory; gene therapy; gene; ss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   98US-00167354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Erlander M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
299. .1636
/*tag= a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /product= "Histamine
                                                                                                                                                                                                                                                                                                                                                                             404 A; 988
                                                                                                                                                                                                                                                                                                       100.0%; Score 2699;
100.0%; Pred. No. 0;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Huvar
                                                                                                                                                                                                                                                                                                                                                                             C; 805 G; 502 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ۶
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             H3 receptor"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pyati
                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4
                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                          6
                                                                                                                                                                                                                                                                                                                                          Length 2699;
                                                                                                                                                                                                                                                                                                       ٥,
                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                 120
                                                                                           180
                                                                                                                          180
                                                                                                                                                             120
                    240
                                                     240
                                                                                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   H
                                   밁
                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                              á
δ
                                                                    S
                                                                                                         밁
                                                                                                                                     ð
                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                              문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
 1321
                                                                                                                                                                              1141
                                                                                                                                                                                                                                                     1081
                                                                                                                                                                                                                                                                                        1081
                                                                                                                                                                                                                                                                                                                         1021
                                                                                                                                                                                                                                                                                                                                                           1021
                                                                                                                                           1201
                                                                                                                                                                                                                                                                                                                                                                                                961
                                                                                                                                                                                                                                                                                                                                                                                                                                 961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                            CTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTGGAGAGGCAGCCGG
                                                                                                                                                                                                                                                                       CTGGCAGAAGGGGCACGGGGAGGCCATGCCGCTGCACAGGTATGGGGTGAGGCGGC 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTCCATCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATACCGGGCCCAGCAGGGTGACACGCCGCCGGCAGTGCCGGAAGATGCTGCTGGTGTGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATACCGGGCCCAGCAGGGTGACACGCGGGCGGCAGTGCGGAAGATGCTGCTGGTGTGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCCCTCGTCGTCGCCTTCGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGCGGCGGGCGGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGGCGCTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGAGCGCGCCCCGACGGGCCGCTGAACGCTTCGGGGGCGCTTGGCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCCAGCTCTCGGCCGCGCGCCCCCGCGCGCGAGCCGCGTGAGCCTGCGGGGCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCCAGCTCTCGGCCGGCGCCCCTGCCCCGCGTCCCCGGAGCCGCGTGAGCCTGCGGGGCCAT
CCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTGGC
                                     GAGGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCGCCTGGAGAAGCGCATGAAGATGGTGTC
                                                       GAGGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCGGCTGGAGAAGCGCATGAAGATGGTGTC
                                                                                                         CGTAGGCGCTGAGGCCGGGGAGGCGACCCTCGGGGGGTGGCGGTGGGGGCGCCTCCGTGGC
                                                                                                                                                                                                                                                     CCCCGAGCCCCTCCCGAGGCCCAGCCTCACCACCCCCACCGCCTGGCTGCTGGGGCTG
                                                                                                                                                                                                                                                                                                                                                                                                CTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGCTTCCACCCTGGAGTTCTTTACGCCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTCCATCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCTCGTCGGCGCCTTCTGCATCCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGACTCGAGCCTCCGCACCAGAACAACTTCTTCCTGCTCAACCTTCGCCATCTCCCGACTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGCGGCGGGGGGCGCGGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGACTCGAGCCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGACTT
   1380
                                     1320
                                                                                                           1260
                                                                      1320
                                                                                                                                                                                                                   1200
                                                                                                                                                                                                                                                                                                                                                             1080
                                                                                                                                                                                                                                                                                                                                                                                                                                   1020
                                                                                                                                                                                1200
                                                                                                                                                                                                                                                     1140
                                                                                                                                                                                                                                                                                                                           1080
                                                                                                                                                                                                                                                                                                                                                                                                  1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
```

S 밁 S 밁 δ 뭐 δ



```
음 성 음
                                                           Ş
                                                                                          밁
                                                                                                           Ş
                                                                                                                                        밁
                                                                                                                                                         ş
                                                                                                                                                                                     B
2641
                                             2581
                                                                                            2521
                                                                                                                                         2461
                                                                                                                                                                2461
                                                                                                                                                                                        2401
                                                                    2581
           GCTCACCCAGGACCTCTGGGGGGTTGTTGGGAGGAGGGGCCCGGCTGGGCCCGAGGGTCC
                                             GTGCACCCGTGCCACGCGCTCTGCATGCTCTCTGCCTGTGCCCCGCTGCGCTGCCCTGCA
                                                                     GTGCACCCGTGCCACGCGCTCTGCATGCTCCTCTGCCTGTGCCCGCTGCGCTGCCCTGCA
                                                                                                                    CAAGGCGTGCAGGGCGGTCCAGAGGAGGTGCCCGGGCAGGGGCCGCTTCGCCATGTGCT
                                                                                                                                          GCTCACCCAGGACCTCTGGGGGTTGTTGGGAGGAGGGGGCCCGGCTGGGCCCGAGGGTCC
                                                                                                                                                                                       CACCCCGCCTCTGGGCTCACACCAGCCCTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTT
2699
                                                                    2640
                                                                                                                   2580
                                             2640
                                                                                            2580
                                                                                                                                          2520
                                                                                                                                                                                        2460
```

04-MAR-2003 ABZ42533 (first DNA; entry) 2699 ВP

Human histamine H3 receptor nucleotide SEQ Ħ NO:548

RESULT 4
ABZ4533
ABZ42533
ABZ4 G protein-coupled receptor; GPCR; antigenic peptide; gene therapy; growth-related disease; growth-related disease; cell regeneration-related disease; firmunological-related cell proliferative disease; autoimmune disease; allergy; Alzheimer's disease; atherosclerosis; infection; osteoarthritis; allergy; osteoparosis; cardiomyopathy; inflammation; Crohn's disease; disease; graft versus host disease; Parkinson's disease; multiple sclerosis; pain; psoriasis; anxiety; depression; schizophrenia; dementia; memory loss; mental retardation; epilepsy; asthma; tuberculosis; obesity; nausea; hypertension; hypotension; renal disorder; rheumatoid arthritis; trauma; gene; ds.

Homo sapiens.

WO200261087-A2

08-AUG-2002

19-DEC-2001; 2001WO-US050107

19-DEC-2000;

2000US-0257144P.

BIOSCIENCES INC.

Burmer

ე მ

Roush

Ę

Brown

ď,

2003-046718/04 ABP81687

New isolated antigenic peptides e.g., for G protein-coupled receptors (GPCR), useful for diagnosing and designing drugs for treating condit: in which GPCRs are involved, e.g. AIDS, Alzheimer's disease, cancer o diseases. conditions

Disclosure; Fig 1; 523pp; English.

The present invention describes antigenic peptides (I) comprising: (a) any one of 1601 sequences (see ABP82019 to ABP83619) of 12-24 amino acids. Also described: (I) an assay for the detection of a particular G protein-coupled receptor (GPCR) or a candidate polypeptide in a sample; and (2) an isolated antibody having high specificity and high affinity or avidity for a particular GPCR. (I) can be used as GPCR modulators and in gene therapy. The antigenic peptides for GPCRs are useful in detecting an antibody against a particular GPCR, and in the production of specific

```
Ś
                                                                                                                             밁
                                                                                                                                                       ð B
                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                   ર્
                                                                                                                                                                                                                                                                                                                                                    문
                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ર્ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ક
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CC antibodies. The peptides and antibodies are also useful for detecting the presence or absence of corresponding GPCRs. The antigenic peptides for CC GPCRs and antibodies are useful for diagnosing and designing drugs for treating immune-related diseases, growth-related diseases, cell CC regeneration-related disease, immunological-related cell proliferative diseases, or autoimmune diseases, e.g. AIDS, Alzheimer's disease, cell atherosclerosis, bacterial, fungal, protozoan or viral infections, CC osteoarthritis, osteoporosis, cancer, cardiomyopathy, chronic and acute cinflammation, allergies, Crohn's disease, disease, graft versus host CC disease, parkinson's disease, multiple sclerosis, pain, psoriasis, cancity, depression, schizophrenia, dementia, mental retardation, memory CC loss, epilepsy, asthma, tuberculosis, obesity, nausea, hypertension, cany other disorder in which GPCRs are involved. The antibodies may be cused in immunoassys and immunodiagnosis. ABZ42523 to ABZ42869 encode CC GPCR proteins given in ABP81675 to ABP82018, which are used in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 2699; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 2699 BP; 404 A; 988 C; 805 G; 502 T; 0 U; 0 Other;
                                                                                                                                      541
                                                                                                                                                               541
                                                                                                                                                                                          481
                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                      661
                                                                                                           601
    721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCACGCGTCCGCCGGCTGCACGGTCGCACCGGCAGCGGCTCAGGCTCCCGCTCTCCC
                                                                                                                                                                                                                                                                                                               GGCGGCGGGCGGCGCCGCCTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCGCCTGCTCTGGCCCCGGGCCCCGGGCCCCGCGGACCATGCGCTGGGCGCCCCCCAGGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCTGCAGCAGCCGCGCTCCCCACTGGGCTCCGGATCCCGGCCCCCGGCCCCCTCCGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CACGCGTCCGCCGGCTGCACGGTCGCACCGGCAGCGGCTCAGGCTCCGGCTCCTCCCC
                                                                                                                                                   CCTCGTCGGCGCCTTCTGCATCCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGGAC
                                                                                                                                                                                                                                                             GGCGCTGCTCATCGTGGCCACGGTGCTGGGCCAACGCCCTGGTCATGCTCGCCTTCGTGGC
                                                                                                                                                                                                                                                                                                                                                                   CCCAGCTCTCGGCCGGCGCCCTGCCCCGCGTGCCGGAGCCGCGTGAGCCTGCGGGGCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCCGACCCGGCCAAGGGCCCGCAAAGACGAGGCTCCCGGGCCGGGGCCCCTCCCCGGCCG
    ATACCGGGCCCAGCAGGGTGACACGCGGCGGCAGTGCGGAAGATGCTGCTGGTGTGGGT
                              TGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTC
                                             TGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTC
                                                                                CTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGCTGCACCTCCTC
                                                                                                    CTTCGGCCGGGGCCTCTGCAAGCTGTGGCTAGTAGTGGACTACCTGCTGCTGCTCCTC
                                                                                                                                                                                                                   CGACTCGAGCCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGACTT
                                                                                                                                                                                                                                                                                                  GGCGGCGGGGGGGGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTCAT
                                                                                                                                                                                                                                                                                                                                                     GGAGCGCGCCCCCCCCACGGGCCGCTGAACGCTTCGGGGGGCGCTGGCGGCGATGCGGC
                                                                                                                                                                                                                                                                                                                                                                                                         CCCAGCTCTCGGCCGGCGCCCTGCCCCCGCGTCCCGGAGCCGCGTGAGCCTGCGGGGCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCCGACCCGGCCAAGGCCCGCAAAGACGACGCTCCCGGGCCGGGCCCCTCCCGGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCGCCTGCTCTGGCCCCGGCCCCGGCCCCGGACCATGCGCTGGGCGCCCCCAGGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Score 2699;
100.0%; Pred. No. 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          몂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 2699;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           memory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               the
                                                                                   660
                                                                                                            660
                                                                                                                                      600
                                                                                                                                                               600
                                                                                                                                                                                          540
                                                                                                                                                                                                                   540
                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60
                              720
                                                        720
                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      <sup>ر</sup> ۵
                S
                                           밁
                                                                 á
                                                                                             밁
                                                                                                                   δ
                                                                                                                                                 밁
                                                                                                                                                                         5
                                                                                                                                                                                                     문
                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                            뫄
                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ঠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뭉
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                1801
                                                                                               1681
                                                                                                                       1681
                                                                                                                                                   1621
                                                                                                                                                                                                      1561
                                                                                                                                                                                                                               1561
                                                                                                                                                                                                                                                           1501
                                                                                                                                                                                                                                                                                                             1441
                                                                                                                                                                                                                                                                                                                                         1441
                                                                                                                                                                                                                                                                                                                                                                   1381
                                                                                                                                                                                                                                                                                                                                                                                            1381
                                                                                                                                                                                                                                                                                                                                                                                                                       1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                 1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCCGGGGGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ### ATACCGGGCCCAGCAGGGTGACACGCGGCCGGCAGTGCGGAAGATGCTGCTGGTGTGGGT
GTCTCCTGGGCATCTGGCCCTGCTGCCCCCTACCCCGGCTCGTTCCCCCCAGGGGTGAGCCC
                                                                                                            GTCTCCTGGGCATCTGGCCCTGCTGCCCCTACCCGGCTCGTTCCCCCAGGGGTGAGCCC
                                                                                                                                                   GCACTGCTGGAAGTGAGTGGCCCACCAGAGCCTCCCCTCAGCCACGCCTCTCTCAGCCCAG
                                                                                                                                                               GGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCCACAGCTCCCTGGA
                                                                                                                                                                                                                                                                        GTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCACAGCTTCCGGCCG
                                                                                                                                                                                                                                                                                                               GGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTCCT
                                                                                                                                                                                                                                                                                                                            GGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTCCT
                                                                                                                                                                                                                                                                                                                                                                                   CGTCATCGTGAGCATCTTTGGGCCTCTGCTGGGCCCCATACACGCTGCTGATGATCATCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                      CCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAGGGGCTCCAAGCCGTCCGCCCCCCGCCCTCGCTGGAGAAGCGCATGAAGATGGTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCCAGCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTCCATCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGCAG
                                                                                                                                                                                                                                                           GTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCACACAGCTTCCGCCG
                                                                                                                                                                                                                                                                                                                                                                   CGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATCCG
                                                                                                                                                                                                                                                                                                                                                                                                                        CCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAGGGGCTCCAAGCCGTCGGCGTCCTCGCCTCGCTGGAGAAGCGCATGAAGATGGTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTGGCAGAAGGGCACGGGGAGGCCATGCCGCTGCACAGGTATGGGGTGAGGTGAGGCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTCCATCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCAC
                                                                                                                                                                                                        GGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTGGA
                                                                                                                        1740
                                                                                                                                                                                                                                  1620
                                                                                                                                                                                                                                                                                                                                                                                                                                                 1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1080
                                            1800
                                                                     1800
                                                                                               1740
                                                                                                                                                    1680
                                                                                                                                                                               1680
                                                                                                                                                                                                        1620
                                                                                                                                                                                                                                                             1560
                                                                                                                                                                                                                                                                                      1560
                                                                                                                                                                                                                                                                                                                1500
                                                                                                                                                                                                                                                                                                                                         1500
                                                                                                                                                                                                                                                                                                                                                                     1440
                                                                                                                                                                                                                                                                                                                                                                                              1440
                                                                                                                                                                                                                                                                                                                                                                                                                        1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   780
```

```
RESULT 5
ACC59304
ID ACC5
XX
ACC ACC5
XX
DC ACC5
XX
DT 28-A
XX
DE Huma
XX
KW Huma
KW immu
KW immu
                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                멍
                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                             ď
                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
Human; histamine H3 receptor; receptor modulator; gene; ds; ag nootropic; neuroprotective; cerebroprotective; cardiant; antia immunomodulator; gestrointestinal; antiallergic; antidiabetic; antiinflammatory; hypotensive; antiarrhythmic.
                                                                                       28-AUG-2003
                                                                                                                                         ACC59394
                                                                                                                                                                                                                             2641
                                                                                                                                                                                                                                                      2581
                                                                                                                                                                                                                                                                                                        2521
                                                                                                                                                                                                                                                                                                                              2521
                                                                                                                                                                                                                                                                                                                                                       2461
                                                                                                                                                                                                                                                                                                                                                                              2461
                                                                                                                                                                                                                                                                                                                                                                                                       2401
                                                                                                                                                                                                                                                                                                                                                                                                                                2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                         2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1861
                                                              histamine
                                                                                                                                       standard;
                                                                                                                                                                                                                                                     GIGCACCCGTGCCACGCGCTCTGCATGCTCTCTGCCTGTGCCCGCTGCGCTGCCCTGCA
                                                                                                                                                                                                                                                                                                                                                                   GCTCACCCAGGACCTCTGGGGGGTTGTTGGGAGGAGGGGGCCCGGCTGGGCCCGAGGGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                     CACCCCGCCTCTGGGCCCACACCAGCCCTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTCTGCCCCCAAAAGTGTCAAGGGGCCCTAGGAACCTCGAAGGTGTTCTCTGCTTTTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCTTCTGTCTCTGCATAAGCCTCAGGCCTGGCCCTTTCACCCCTCTTCCCCACCACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCTGCACACCCTGCACACCGTCCCTCTCCCCGGACAAGCCCAGGACACTGCCTTTTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTGTGCTCCAGGCTTCCTGCCCCTAGCAGTTTTGCCTCTGCACGCGTGCACACCCCTGCACACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCCACATTCTGGCTCCACCGGGGAGGACAGTCTGGAGGTCCCAGACATGCTGCCCACCC
                                                                                                                                                                                                     GTGCACCCGTGCCACGCGCTCTGCATGCTCCTCTGCCCTGTGCCCCGCTGCGCCTGCCCTGCA
                                                                                                                                                                                                                                                                                                                    CAAGGCGTGCAGGGGCGGTCCAGAGGGGGTGCCCGGGCAGGGGGCCGCTTCGCCATGTGCCT
                                                                                                                                                                                                                                                                                                                                                       GCTCACCCAGGACCTCTGGGGGGTTGTTGGGAGGAGGGGCCCCGGCTGGGCCCGAGGGTCC
                                                                                                                                                                                                                                                                                                                                                                                                        CACCCGCCTCTGGGCTCACACCAGCCCTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTCCCACGCCCTCCTCCCTCCGCTAAGGCTTCCGGCTGAGCTGTGCCAGCTGCTTCTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGTTTAATCAAGAGAGACAAAATTGCTGAGGAGCTCAGGGCTGGATTGGCAGGTGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCTTCTGTCTCTTGCATAAGCCTCAGGCCCTGGCCCTTTCACCCCCTCTTCCCCACCAACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTGTGCTCCAGGCTTCCTGCCCTAGCAGTTTGCCTCTGCACGTGCACACACCTGCACACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCCACATTCTGGCTCCACCGGGGAGGGACAGTCTGGAGGTCCCAGACATGCTGCCCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAAGGCGTGCAGGGGCGGTCCAGAGGAGGTGCCCGGGCAGGGGCCGCTTCGCCATGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTCCCACGCCTCCTCCCCTAAGGCTTCCGGCTGAGCTGTGCCAGCTGCTTCTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGTTTAATCAAGAGAGACAAAATTGCTGAGGAGCTCAGGGCTGGATTGGCAGGTGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTCTGGGTGTTTTCAGAAAGATGAAGAAGAAAACATGTCTGTGAACTTGATGTTCGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTCTGGGTGTTTTCAGAAAGATGAAGAAGAAGAACATGTCTGTGAACTTGATGTTCGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTCTGCCCCCAAAAGTGTCAAGGGGCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCTGCACACACCT
                                                                                       (first
                                                               Н3
                                                              receptor
                                                                                                                                       DNA;
                                                                                      entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IGCACACCGTCCCTCTCCCCGGACAAGCCCAGGACACTGCCTTTGCTG
                                                                                                                                         2699
                                                              nucleotide sequence
                                                                                                                                       ВÞ
                                                                                                                                                                                                                             2699
                                                                                                                                                                                                     2699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1920
                                                                                                                                                                                                                                                      2640
                                                                                                                                                                                                                                                                               2640
                                                                                                                                                                                                                                                                                                                              2580
                                                                                                                                                                                                                                                                                                                                                                                                                                2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1980
                                                                                                                                                                                                                                                                                                       2580
                                                                                                                                                                                                                                                                                                                                                       2520
                                                                                                                                                                                                                                                                                                                                                                                2520
                                                                                                                                                                                                                                                                                                                                                                                                       2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                         2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2040
```

Ś

CCGCCTGCTCTGGCCCCGGGCCCCGGGGCCCCGCGGGGCCCCCAGGGGGAA

0

Gaps

120

60 60 0

120

180

180

ACCCGACCCGGCCAAGGGCCCGCAAAGACGAGGCTCCCGGGCCGGGGCCCCTCCCGGCCG CCGCCTGCTCTGGCCCCGGCCCCGGCCCCGCGGACCATGCGCTGGGCGCCCCCAGGGGGAA

240

240

밁

61

S g S 밁 Š 밁 á 밁

360 300 300

360

420

GGCGGCGGGCGGGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCCGCTCAT CCCAGCTCTCGGCCGCGCCCTGCCCCCGCGTCCCGGAGCCGCTGAAGCCTGCGGGGCCAT

CCCAGCTCTCGGCCGCGCCCCTGCCCCGCGTCCCGGAGCCGCGTGAGCCTGCGGGGCCCAT

```
S
                                                밁
                                                                              δ
                                                                                                                       Query Match
Best Local Similarity
Matches 2699; Conserv
                                                                                                                                                                                                                                             The present invention relates to a method of identifying compounds that are agonists of recombinant human histamine H3 receptor protein activity; comprising combining a compound suspected of being an antagonist of human histamine H3 receptor protein activity with recombinant human histamine H3 receptor protein, and measuring an agonistic effect of the compound on the recombinant human histamine H3 receptor protein. The methods and compositions of the present invention are useful for diagnosing and treating human histamine H3 receptor-related disorders, such as central and peripheral nervous system disorders (depression, anxiety, psychoses, Parkinson's disease, Alzheimer's disease, dementia and tardive dyskinesia), asthma, allergy, diabetes me, idementia and tardive dyskinesia), asthma, allergy, and arrhythmia) and gastrointestinal disorders. The present sequence is the coding sequence of the human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Identifying agonists of recombinant human histamine H3 receptor protein activity, useful for diagnosing and treating H3 receptor-related disorders, such as nervous system disorders, asthma, allergy, hypertension and diabetes.
                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Example 1; Fig 1; 55pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO2003044059-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo
                                                                                                                                                                                                                                  histamine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Lovenberg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15-NOV-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15-NOV-2001; 2001WO-US045313.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30-MAY-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (ORTH ) ORTHO-MCNEIL PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2003-457595/43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sapiens.
              13
GCTGCAGCAGCCGCCGCTGCCCCCACTGGGCTCGGATCCGGCCCCCGGCCCCCTCGGCA
                                                                      CCACGCGTCCGCCGGCTGCACGGTCGCACCGGCAGCGGCTCAGGCTCCCGGCTCCTCTCCC
                                                                                                                                                                                                2699
                                                    CCACGCGTCCGCCGGCTGCACGGTCGCACCGGCAGCGGCTCAGGCTCCGGCTCCTCTCCC
                                                                                                                                                                                                                                  H3 receptor
                                                                                                                       100.0%; ilarity 100.0%; Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2001WO-US045313.
                                                                                                                                                                                              BP;
                                                                                                                                                                                            404 A; 988 C; 805 G; 502 T; 0 U; 0 Other;
                                                                                                                       0;
                                                                                                                                        Score 2699;
Pred. No. 0;
                                                                                                                         Mismatches
                                                                                                                                                            DB
                                                                                                                       0,
                                                                                                                         Indels
                                                                                                                                                           Length
```

\$ \$ \$ \$	g & B &	Qy Db	Qy Db	D Q	g Qy	D Q	Db Qy	당 왕	р Q	P Qy	Db Qy	Q Q	Qy Db	Qy db	B 8	р <i>Q</i>
1381 GETCATGETGAGGATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATCCG 1440 1441 GGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTCCT 1500 1441 GGCCGCCTGCCATGGCCACTGCCTCCTGACTACTGGTACGAAACCTCCTTCTGGCTCCT 1500 1441 GGCCGCCTGCCATGGCCACTGCCCTGACTACTGTGCCACCACACAGCTTCCGCCG 1560 1501 GTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCACAGCTTCCGCCG 1560	21 CCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGAAAGTGGCAAAGTCGCTGGC 1	261 GAGGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCGCTGGAGAGCGCATGAAGATGGTGTC 132 	201 TTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGGCCGCGCTCACTCA	CGTGGC	1081 CTGGCAGAAGGGGCACGGGGAGGCCATGCCGCTGCACAGGTATGGGGTGAGGCGGGC 1140	1021 CCCCGAGCCCCTCCCGAGGCCCAGCCCTCACCACCCCCCACCGCCTGGCTGG	961 CTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCCGG 1020	901 GGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCAT 960	841 CTCCATCCCCAAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCAC 900	781 GCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGGCAG 840 [721 ATACCGGGCCCAGCAGGGTGACACGCGGCGGCAGTGCGGAAGATGCTGCTGGTGTGGGT 780	661 TGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTC 720	601 CTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTTGCACCTCCTC 660 [541 CCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGGAC 600 [481 CGACTCGAGCCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGACTT 540	421 GGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTTCGTCGTCGTCGC 480
Qy Dy	D Q D 4	\$ B &	Qy Db	B 8	D 49	Db Qy	B &	? B &	B &	}	B &	db dy	B &	B 8	B &	? B
2521 CAAGGCGTGCAGGGGCGGTCCAGAGGAGGAGGTGCCCGGGCAGGGGCCGCTTCGCCATGTGCT 2580		2341 CTCCCACGCCTCCCCTCCGCTAAGGCTTCCGGCTGAGCTGTGCCAGCTGCTTCTGCC 2400	2281 ATGTTTAATCAAGAGAGACAAAATTGCTGAGGAGCTCAGGGCTGGATTGGCAGGTGTGGG 2340	2221 TTCTGGGTGTTTTCAGAAAGATGAAGAAGAAAACATGTCTGTGAACTTGATGTTCGTGGG 2280		CCTTCTGTCTCTGCATAAGCCTCAGGCCTGGCCCTTTCACCCCTCTTCCCACCAACTCT	CCTGCACACCTGCACACCGTCCCTCTCCCCGGACAAGCCCCAGGACACTGCCTTTGCTG	GTGTGCTCCAGGCTFICCTGCCCTAGCAGTFIGCCTCTGCACGTGCACACCACTGCACACCCTGCACACACCTGCACACACCTGCACACACCTGCACACACTGCACACACA	CTGCTGGTGCCCACCCTTCGCAGTTACTGGTTGGTGTTCTTCCCAAAGCAAGC	CCCACATTCTGGCTCCACCGGGGAGGGACAGTCTGGAGGTCCCACACCCCACCATTCTGGAGGTCCCAGACATGCTGGCCCACCCCCCCC	CTGGGTTGGCCAGAGGGCCCTCACTGGGCTGGACTGGAGCTGGGTGGCCGCCCTGCCCCCCCC	GGCGTGTCTGTGGCCCTCTTAATGCCACGGCAGCCACCCTGCCATGGAGGCGCCTTC		GCACTGCTGGAAGTGAGTGGCCCACCAGAGCCTCCCTCAGCCAGC	GENERAL ACCAMBANCI DE L'ALBOCAL CAMBANCI CAMBANT ACCAMBANCI L'ACCAMBANT ACCAMBANT ACCA	

```
ARESULT 6
AND 2860
AN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                               activity of the human histamine H3 receptor in response to ligand binding. The antibody is useful for detecting and quantifying expression of human histamine H3 receptors, which may be useful for diagnostic, epidemiological or forensic purposes. The antibody is potentially useful in treating diseases such as depression, anxiety, schizophrenia, parkinson's disease, obesity, hypertension, Tourette's syndrome, sexual dysfunction, drug addiction or drug abuse, cognitive disorders, althemer's disease, obsestive-compulsive behaviour, panic attacks, pain, eating disorders and anorexia, cardiovascular and cerebrovascular disorders, diabetes, constipation, arrhythmia, ulcers, asthma, allergy, inflammation, or prostate dysfunction. The present sequence is the full
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        depression; anxiety; schizophrenia; Parkinson's disease; obesity; hypertension; Tourette's syndrome; sexual dysfunction; drug addiction; drug abuse; cognitive disorder; Alzheimer's disease; obsessive-compulsive behaviour; panic attack; pain; eating disorder; anorexia; cardiovascular disorder; cerebrovascular disorder; diabetes; constipation; arrhythmia; ulcer; asthma; allergy; inflammation;
                                                                                                                                                                                                                                                                                                                                                                                                             The invention relates to a monospecific antibody immunologically reactive with a protein appearing as ADD22854, where the protein functions as a human histamine H3 receptor. The antibody blocks intracellular signaling
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New antibody against human histamine H3 receptor, preferably with receptor antagonist activity, useful for diagnostic purposes and for treating diseases such as depression, Parkinson's disease, obesity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADD22860;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADD22860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Example 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  prostate dysfunction.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15-JAN-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              hypertension.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                P-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US6437100-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (ORTH )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2003-810293/76.
                                                          cDNA encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ss; Histamine H3 receptor; GPCR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORTHO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADD22854.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTGCACCCGTGCCACGCGCTCTGCATGCTCCTCTGCCTGTGCCCGCTGCGCTGCCCTGCA 2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ŢΨ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2000US-00642514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PHARM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       98US-00167354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Erlander M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers 299. .1636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /*tag= a
/product= "Histamine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NO 5; 25pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cDNA encoding histamine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          entry)
                                                          histamine H3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Huvar A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ΒP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PCR; G protein-coupled receptor; gene;
Parkinson's disease; obesity;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         H3
                                                      receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pyati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         receptor"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   H3 receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ဝူ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2699
```

Sequence 2699

BP;

404

Α,

988

Ç

805 ဂ္

502

7 0 Ç 0 Other

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
S
                           밁
                                                   δ
                                                                                    밁
                                                                                                            δ
                                                                                                                                          밁
                                                                                                                                                               δ
                                                                                                                                                                                                В
                                                                                                                                                                                                                         S
                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 2699; Conserv
                             961
                                                                                    901
                                                                                                               901
                                                                                                                                            841
                                                                                                                                                                      841
                                                                                                                                                                                                  781
                                                                                                                                                                                                                                                                                                               661
                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                       961
                                                                                                                                                                                                                            781
                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                           199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | CCGCCTGCTCTGGCCCCGGCCCCGGCCCGGACCATGCGCCTGGGCGCCCCCAGGGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCTGCAGCAGCCGCGCTGCCGGCCCCACTGGGCTCGGATCCGGCCCCCGGCCCCCTCGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCACGCGTCCGCCGGCTGCACGGTCGCACCGGCAGCGGCTCAGGCTCCCGCTCTCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCACGCGTCCGCCGGCTGCACGGTCGCACCGGCAGCGGCTCAGGCTCCGGCTCCTCCCC
                                                                                                                                                                                                                                                                        ATACCGGGCCCAGCAGGGTGACACGCGGGCGGCAGTGCGGAAGATGCTGCTGGTGTGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                           CCTCGTCGGCGCCTTCTGCATCCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGACTCGAGCCTCCGCACCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGACTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGACTCGAGCCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCCATCTCCGACTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCCAGCTCTCGGCCGCGCGCCCCGCGTCCCGGAGCCGGTGAGCCTGCGGGGCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCTGCAGCAGCCGCCTGCCGGCCCCACTGGGCTCGGATCCGGCCCCGGCCCCCTCGGCA
 CCCCGAGCCCCTCCCGAGGCCCAGCCCTCACCACCCCCACCGCCTGGCTGCTGGGGGCTG
                                                 CTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCCGG
                                                                                                       GGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTTCAGCAT
                                                                                                                                                                     CTCCATCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCAC
                                                                                                                                                                                                                GCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGCAG
                                                                                                                                                                                                                                                        ATACCGGGCCCAGCAGGGTGACACGCGGCGGCAGTGCGGAAGATGCTGCTGGTGTGGGT
                                                                                                                                                                                                                                                                                                                 TGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTC
                                                                                                                                                                                                                                                                                                                               TGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTC
                                                                                                                                                                                                                                                                                                                                                                       CTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCCTC
                                                                                                                                                                                                                                                                                                                                                                                    CTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                             CCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGCGGCGGGCGCGCCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGCGGCGGGGGGGGGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGAGCGCGCCGCCCGACGGGCCGCTGAACGCTTCGGGGGGCGCTGGCCGGCGATGCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCCAGCTCTCGGCCGCGCCCCTGCCCCGCGTCCCGGAGCCGCGTGAGCCTGCGGGGCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCCGACCCGGCCAAGGGCCCGCAAAGACGAGGCTCCCGGGCCGGGGCCCCTCCCGGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCCGACCCGGCCAAGGGCCCGCAAAGACGAGGCTCCCGGGCCGGGCCCCTCCCGGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCGCCTGCTCTGGCCCCGGGCCCCGGGGCCCGCGGACCATGCGCTGGGCGCCCCCAGGGGAA
                              CTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGGCTCGAGAGGCAGCCGG
                                                                                      GGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCAT
                                                                                                                                            CTCCATCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCAC
                                                                                                                                                                                                   GCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 2699;
Pred. No. 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                1020
                                                          1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60
  1080
                                                                                      960
                                                                                                                960
                                                                                                                                                                       900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60
                                                                                                                                            900
                                                                                                                                                                                                   840
                                                                                                                                                                                                                               840
                                                                                                                                                                                                                                                           780
                                                                                                                                                                                                                                                                                    780
                                                                                                                                                                                                                                                                                                                 720
                                                                                                                                                                                                                                                                                                                                             720
                                                                                                                                                                                                                                                                                                                                                                       660
                                                                                                                                                                                                                                                                                                                                                                                                   660
                                                                                                                                                                                                                                                                                                                                                                                                                             600
                                                                                                                                                                                                                                                                                                                                                                                                                                                         600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
```

```
성 음 성 음
                                                                                                                                                                                  ち 음 성
                                                                                                                                                                                                                  8 8 8 8 8 8 8
                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                     중 유
                                                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                                          음 성 음
                                                                                                                                                                                                                                                                                                                                                                                         ঠ
                                                                                                                                                                                                                                                                                                                                                                                                    문
     ð
                                                                                                                                                                                                                                            1441
                                                                                                                                                                                                                                                       1441
                                                                                                                                                                                                                                                                                                  1321
                                                                                                                                                                                                                                                                                                                                                                      1141
      2101
                                                            1921
                                                                       1921
                                                                                  1861
                                                                                             1861
                                                                                                         1801
                                                                                                                   1801
                                                                                                                              1741
                                                                                                                                         1741
                                                                                                                                                    1681
                                                                                                                                                                          1621
                                                                                                                                                                                     1621
                                                                                                                                                                                                1561
                                                                                                                                                                                                           1561
                                                                                                                                                                                                                      1501
                                                                                                                                                                                                                                 1501
                                                                                                                                                                                                                                                                  1381
                                                                                                                                                                                                                                                                             1381
                                                                                                                                                                                                                                                                                        1321
                                                                                                                                                                                                                                                                                                              1261
                                                                                                                                                                                                                                                                                                                                    1201
                                                                                                                                                                                                                                                                                                                                               1201
                                                                                                                                                                                                                                                                                                                                                           1141
                                                                                                                                                                                                                                                                                                                                                                                 1081
                                                                                                                                                                                                                                                                                                                                                                                                       1021
                                                                                                                                                               1681
                                                                                                                                                                                                                                                                                                                         1261
                                                                                                                                                                                                                                                                                                                                                                                           1081
                                                                                                                                                                                                                                                                                                                                                                                GTCTCCTGGGCATCTGGCCCTGCTGCCCCCTACCCGGCTCGTTCCCCCAGGGGTGAGCCC
                                                                                                                                                                          GGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTGGA
                                                                                                                                                                                                                                           GGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTCCT
                                                                                                                                                                                                                                                                  CGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATCCG
                                                                                                                                                                                                                                                                                                                                    CCCACATTCTGGCTCCACCGGGGAGGGGACAGTCTGGAGGTCCCAGACATGCTGCCCACCC
                                                                                                        GTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCACAGCTTCCGCCG
                                                                                                                                                                                                                                                                                              CCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGAAAGTGGCCAAAGTCGCCTGGC
                                                                                                                                                                                                                                                                                                                     GAGGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCGCTGGAGAAGCGCATGAAGATGGTGTC
                                                                                                                                                                                                                                                                                                                                                                                                      CCTTCTGTCTCTTGCATAAGCCTCAGGCCTGGCCCTTTCACCCCCTCTTCCCACCAACTCT
                 CCTGCACACACCTGCACACCGTCCCCTCTCCCCGGACAAGCCCAGGACACTGCCTTTGCTG
                                                             CCCACATTCTGGCTCCACCGGGGAGGGACAGTCTGGAGGTCCCAGACATGCTGCCCACCC
                                                                                                                                                                                                                            GTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCACAGCTTCCGCCG
                                                                                                                                                                                                                                                                                        CCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTGGC
                                                                                                                                                                                                                                                                                                               GAGGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCGCTGGAGAAGCGCATGAAGATGGTGTC
                                                             1980
                                                                       1980
                                                                                  1920
                                                                                                         1860
                                                                                                                   1860
                                                                                                                              1800
                                                                                                                                         1800
                                                                                                                                                     1740
                                                                                                                                                               1740
                                                                                                                                                                          1680
                                                                                                                                                                                      1680
                                                                                                                                                                                                 1620
                                                                                                                                                                                                           1620
                                                                                                                                                                                                                      1560
                                                                                                                                                                                                                                  1560
                                                                                                                                                                                                                                                       1500
                                                                                                                                                                                                                                                                   1440
                                                                                                                                                                                                                                                                             1440
                                                                                                                                                                                                                                                                                        1380
                                                                                                                                                                                                                                                                                                   1380
                                                                                                                                                                                                                                                                                                               1320
                                                                                                                                                                                                                                                                                                                                     1260
                                                                                                                                                                                                                                                                                                                                               1260
                                                                                                                                                                                                                                                                                                                                                           1200
                                                                                                                                                                                                                                                                                                                                                                      1200
                                                                                                                                                                                                                                                                                                                                                                                 1140
                                                                                                                                                                                                                                                                                                                                                                                            1140
                                                                                                                                                                                                                                                                                                                                                                                                       1080
      2160
                 2100
                           2100
                                      2040
                                                 2040
                                                                                             1920
                                                                                                                                                                                                                                            1500
                                                                                                                                                                                                              δ
                                                                                                                                                                                                                           유 성
                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                               र्
                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                     문
                                                                                                                                                                                                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                                                                                                                                            片
                                                                                                                                                                                                      닭
```

```
2161
                   2641
                                       2581
                                                                            2521
                                                                                               2521
                                                                                                                  2461
                                                                                                                                     2461
                                                                                                                                                         2401
                                                                                                                                                                            2401
                                                                                                                                                                                               2341
                                                                                                                                                                                                                   2341
                                                                                                                                                                                                                                      2281
                                                                                                                                                                                                                                                          2281
                                                                                                                                                                                                                                                                             2221
                                                                                                                                                                                                                                                                                               2221
                                                                                                                                                                                                                                                                                                                                                          2101
                                     GTGCACCCGTGCCACGCGCTCTGCATGCTCCTCTGCCTGTGCCCGCTGCGCTGCCCTGCACGCTGCACCCTGCATGCTCCTGTGCCCTGCGCTGCGCTGCCCTGCA
                                                                                                                  GCTCACCCAGGACCTCTGGGGGTTGTTGGGAGGAGGGGGCCCGGCTGGGCCCGAGGGTCC
                                                                                                                                                                                              TTCTGGGTGTTTTCAGAAAGATGAAGAAGAAAACATGTCTGTGAACTTGATGTTCGTGGG
                                                                                                                                                                                                                                                                                                                  CTCTGCCCCAAAAGTGTCAAGGGGCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTTCCA
CAAGGCGTGCAGGGGGGGTCCAGAGGAGGTGCCCGGGCAGGGGCCGCTTCGCCATGTGCT
                                                                                                                                                         CCTTCTGTCTCTTGCATAAGCCTCAGGCCTGGCCCTTTCACCCCTCTTCCCCACCAACTCT
                                                                             CAAGGCGTGCAGGGGCGGTCCAGAGGAGGTGCCCGGGCAGGGGCCGCCTTCGCCATGTGCT
                                       2640
                                                                                                                    2520
                                                                                                                                                           2460
                                                                                                                                                                             2460
                                                                                                                                                                                                  2400
                                                                                                                                                                                                                    2400
                                                                                                                                                                                                                                       2340
                                                                                                                                                                                                                                                                             2280
                                                                                                                                                                                                                                                                                                                     2220
                                                                              2580
                                                                                                 2580
                                                                                                                                       2520
                                                                                                                                                                                                                                                          2340
                                                                                                                                                                                                                                                                                                                                                           2160
```

```
15-JAN-2003; 2003US-0440318P.
04-FEB-2003; 2003US-0444783P.
27-MAR-2003; 2003US-0457901P.
08-MAY-2003; 2003US-0468775P.
19-MAY-2003; 2003US-047814P.
16-JUN-2003; 2003US-0478742P.
18-JUL-2003; 2003US-0478742P.
30-JUL-2003; 2003US-0498156P.
                                                                                                                                                                                                  Homo
                                                                                                                                                                                                                                                 Human urological disorder related protein 8203
                                                                                       14-JAN-2004;
                                                                                                           05-AUG-2004
                                                                                                                               WO2004065576-A2
                                                                                                                                                                                                                     urological disorder; uropathic; cytostatic; urinary incontinence; benign prostatic hyperplasia; human; gene; ss.
                                                                                                                                                                                                                                                                     21-OCT-2004
                                                                                                                                                                                                                                                                                         ADQ89179
                                                                                                                                                                                                                                                                                                             ADQ89179 standard;
                                                                                                                                                                                                  sapiens
                                                                                       2004WO-US000750
                                                                                                                                                                                                                                                                     (first
                                                                                                                                                           Location/Qualifiers
299. .1636
/*tag= a
                                                                                                                                                 /*tag=  a
/product= "urological disorder related
                                                                                                                                                                                                                                                                                                             CDNA;
                                                                                                                                                                                                                                                                     entry)
                                                                                                                                                                                                                                                                                                              ΒP
                                                                                                                                                                                                                                                  encoding cDNA SEQ:131.
                                                                                                                                                  protein
```

```
g
                                      밁
                                                                                                                                                                                      밁
                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present invention describes the use of polypeptides related to urological disorders for identifying a compound capable of treating a urrological disorder, identifying a subject having a urological disorder, or treating a subject having a urological disorder. Or treating a subject having a urological disorder. Also described: (1) a method for identifying a subject having a urological disorder; (2) a method for identifying a subject having a urological disorder; and (3) a method for treating a subject having a urological disorder. The compound has uropathic and cytostatic activities. The polypeptides related to urological disorders are useful for identifying a compound capable of treating a urological disorder, identifying a subject having a urological disorder. Disorders include urinary incontinence and benign prostatic hyperplasia. The present sequence encodes a human urological disorder related protein, which is used in the exemplification of the present
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Use of po
211 or fo
disorder
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Karicheti V,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        02-SEP-2003;
26-SEP-2003;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (MILL-) MILLENNIUM
                                                                                                                                                                                                                                                                                                                                                                                                                                         2699;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2004-562167/54.
)B; ADQ89180.
               481
                                       421
                                                             421
                                                                                      361
                                                                                                              361
                                                                                                                                        301
                                                                                                                                                              301
                                                                                                                                                                                       241
                                                                                                                                                                                                               241
                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               polypeptides related to urological disorders, e.g. 44390, 54181, for identifying a compound capable of treating a urological er or identifying and treating a subject having a urological
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                     GCTGCAGCAGCCGCCGCTGCCGGCCCCACTGGGCTCGGATCCGGCCCCCGGCCCCCTCGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2699
                                     CCACGCGTCCGCCGGCTGCACGGTCGCACCGGCAGCGGCTCAGGCTCCGGCTCCTCCCC
CGACTCGAGCCTCCGCACCCAGAACACTTCTTCCTGCTCAACCTCGCCATCTCCGACTT
                                                                                                    GGCGGCGGGCGGGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCCTCAT
                                                                                                                                                   CCCAGCTCTCGGCCGCGCCCTGCCCCGGGTCCCGGAGCCGGTGAGCCTGCGGGGCCAT
                                                                                                                                                                                                                                                   ACCCGACCCGGCCAAGGGCCCGCAAAGACGAGGCTCCCGGGCCGGGGCCCCTCCCCGGCCG
                                                                                                                                                                                                                                                                                                    CCGCCTGCTCTGGCCCCGGGCCCCGGGCCCCGCGGACCATGCGCTGGGCGCCCCCAGGGGAA
                                                                                                                                                                                                                                                                                                                                                                                       CCGCCTGCTCTGGCCCCGGCCCCGGCCCCGGACCATGCGCTGGGCGCCCCCAGGGGAA
                                                                                                                                     GGAGCGCGCCGCCCGACGGGCCGCTGAACGCTTCGGGGGGCGCTGGCCGGCGATGCGGC
                                                                                                                                                                                                                                       ACCCGACCCGGCCAAGGGCCCGCAAAGACGAGGCTCCCGGGCCGGGCCCCTCCCGGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%;
ilarity 100.0%;
Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2003US-0499594P.
2003US-0506332P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B₽;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Silos-Santiago
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             131;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Α,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               542pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         988
                                                                                                                                                                                                                                                                                                                                                                                                                                        0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 2699;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ç,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        805
                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eliasof
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        502
                                                                                                                                                                                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Τ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                               13;
                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        u;
                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2699;
                                                                                                                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                               120
               540
                                       480
                                                               480
                                                                                       420
                                                                                                              420
                                                                                                                                                              360
                                                                                                                                                                                                               300
                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                       360
                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                  Ś
                                                                    S
                                                                                                                                                                     8
                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                   5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                밁
                                                                                                 밁
                                                                                                                      5
                                                                                                                                          밁
                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                   1441
                                                                                                                                                                           1381
                                                                                                                                                                                                                                                                                                                                                   1141
                                                                                                                                                                                                                                                                                                                                                                                                    1081
1561
                                                  1501
                                                                                                                                                  1381
                                                                                                                                                                                                                          1321
                                                                                                                                                                                                                                                 1261
                                                                                                                                                                                                                                                                                                    1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                     1021
                         1561
                                                                         1501
                                                                                                                                                                                                                                                                           1261
                                                                                                                                                                                                                                                                                                                         1201
                                                                                                                                                                                                                                                                                                                                                                                                                           1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                             GTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCACAGCTTCCGCCG
                                                                                                              GGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTCCT
                                                                                                                                                                                                                                                 GAGGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCGAGAAGCGCATGAAGATGGTGTC
                                                                                                                                                                                                                                                                     GAGGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCGCTGGAGAAGCGCATGAAGATGGTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                 CTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCCAGCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCTCGTCGGCGCCTTCTGCATCCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGGAC
  GGCCTTCACCAAGCTGCTCT
              GGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTGGA
                                                                                                                                                                CGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATCCG
                                                                                                                                                                                                                 CCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTGGC
                                                                                                                                                                                                                                                                                                                GGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATACCGGGCCCAGCAGGGTGACACGCGGGCGGGCAGTGCCGGAAGATGCTGCTGGTGTGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGACTCGAGCCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGACTT
                                                GTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCACAGCTTCCGCCG
                                                                                                   GGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTCCT
                                                                                                                                                  CGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATCCG
                                                                                                                                                                                                                                                                                                  CTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATACCGGGCCCAGCAGGGTGACACGCGGCGGGCAGTGCCGGAAGATGCTGCTGGTGGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTC
                         1620
                                                                         1560
                                                                                                                                                                                                                                                                                                                                                                          1200
                                                                                                                                                                                                                                                                                                                                                                                                                           1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1020
                                                  1560
                                                                                                   1500
                                                                                                                           1500
                                                                                                                                                  1440
                                                                                                                                                                           1440
                                                                                                                                                                                                   1380
                                                                                                                                                                                                                          1380
                                                                                                                                                                                                                                                 1320
                                                                                                                                                                                                                                                                                                    1260
                                                                                                                                                                                                                                                                                                                                                                                                    1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                    1080
                                                                                                                                                                                                                                                                                                                           1260
                                                                                                                                                                                                                                                                                                                                                   1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   840
                                                                                                                                                                                                                                                                           1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   660
```

밁

Ş

S

Ş

Ş

Ş

Ś

Ş

```
2521
                                                                                                                                           2461
                                                                                                                                                                  2461
                                                                                                                                                                                         2401
                                                                                                                                                                                                                 2401
                                                                                                                                                                                                                                         2341
                                                                                                                                                                                                                                                              2341
                                                                                                                                                                                                                                                                                       2281
                                                                                                                                                                                                                                                                                                                                     2221
                                                                                                                                                                                                                                                                                                                                                             2221
                                                                                                                                                                                                                                                                                                                                                                                    2161
                                                                                                                                                                                                                                                                                                                                                                                                            2161
                                                                                                                                                                                                                                                                                                                                                                                                                                    2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                          2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1621
                                                                                                                                         CACCCGCCTCTGGGCTCACACCAGCCCTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTT
                                                                                                                                                                                                                                                                                                                                                                                  CTCTGCCCCCAAAAGTGTCAAGGGGCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTTCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAAGGCGTGCAGGGGGGTCCAGAGGAGGTGCCCGGGCAGGGGCGCTTCGCCATGTGCT
                                                                                                                                                                                                                                       CTCCCACGCCCTCCCTCCCGCTAAGGCTTCCGGCTGAGCTGTGCCAGCTGCTTCTGCC
                                                                                                                                                                                                                                                                                                                                                TTCTGGGTGTTTTCAGAAAGATGAAGAAGAAAAACATGTCTGTGAACTTGAIGTTCGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTGTGCTCCAGGCTTCCTGCCCTAGCAGTTTGCCTCTGCACGTGCACACACCCTGCACACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTGCACCCGTGCCACGCGCTCTGCATGCTCCTCTGCCTGTGCCCGCTGCGCTGCCCTGCA
                                                                                                        CAAGGCGTGCAGGGGGGGTCCAGAGGAGGTGCCCGGGGAGGGGCCGCTTCGCCATGTGCT
                                                                                                                                                                                                                                                                                                  ATGTTTAATCAAGAGAGACAAAATTGCTGAGGAGCTCAGGGCTGGATTGGCAGGTGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                    CCTTCTGTCTCTTGCATAAGCCTCAGGCCTGGCCCTTTCACCCCTCTTCCCCACCAACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                               CCTTCTGTCTCTTGCATAAGCCTCAGGCCTGGCCCTTTCACCCCTCTTCCCACCAACTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCTGCACACCTGCACACCGTCCCTCTCCCCGGACAAGCCCAGGACACTGCCTTTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCTGCACACCTGCACACCGTCCCCTCTCCCCGGACAAGCCCCAGGACACTGCCTTTTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTGTGCTCCAGGCTTCCTGCCCTAGCAGTTTGCCTCTGCACGTGCACACACCTGCACACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTGCTGGTGCCCACCCTTCGCAGTTACTGGTTGGTGTTCTTCCCAAAGCAACCAGGCACCTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCCGTGTCTGTGGCCCTCTTTAATGCCACGGCAGCCACCCTGCCATGGAGGCGCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTCTCCTGGGCATCTGGCCCTGCTGCCCCCTACCCGGCTCGTTCCCCCAGGGGTGAGCCC
ATGTTTAATCAAGAGAGACAAAATTGCTGAGGAGCTCAGGGCTGGATTGGCAGGTGTGGG
                                                                                                                                                                                                                                                                                                                                    TTCTGGGTGTTTTCAGAAAGATGAAGAAGAAAACATGTCTGTGAACTTGATGTTCGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTCTCCTGGGCATCTGGCCCTGCCCCCTACCCGGCTCGTTCCCCCAGGGGTGAGCCC
2699
                     2699
                                            2640
                                                                    2640
                                                                                            2580
                                                                                                                  2580
                                                                                                                                          2520
                                                                                                                                                                2520
                                                                                                                                                                                        2460
                                                                                                                                                                                                                2460
                                                                                                                                                                                                                                       2400
                                                                                                                                                                                                                                                              2400
                                                                                                                                                                                                                                                                                     2340
                                                                                                                                                                                                                                                                                                             2340
                                                                                                                                                                                                                                                                                                                                     2280
                                                                                                                                                                                                                                                                                                                                                           2280
                                                                                                                                                                                                                                                                                                                                                                                    2220
                                                                                                                                                                                                                                                                                                                                                                                                           2220
                                                                                                                                                                                                                                                                                                                                                                                                                                 2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                          2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1680
```

정 음 성 음

정 음 정 음

121

음 성

Ş

밁

Ş

유성유

중 유

중 유

중 유

5 유

ち 음 ち

밁

중 유

중 유

```
RESULT 8
ADR31456
ID ADR3
XX ADR3
XX ADR3
XX ADR3
XX Huma
XX Huma
XX Huma
XX Huma
XX Huma
XX Homc
XX Homc
XX Homc
XX Homc
XX Homc
XX Hom
XX Cla
XX Cl
        S
                                                                                                                        Ş
                                                                             밁
                                                                                                                                                                       밁
                                                                                                                                                                                                                                      S
                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 2699; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                              The present invention provides a human histamine H3 receptor protein and nucleic acid encoding such protein. The invention is useful for identifying compounds that modulate the activity of human histamine H3 receptor. The invention is useful for treating a condition that is mediated by a human histamine H3 receptor in a patient and for treating Parkinson's disease, obesity, Alzheimer's disease, pain, stress, ulcers, constipation and non-insulin dependent diabetes mellitus. The present sequence is a human histamine H3 receptor cDNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (LOVE/) LOVENBERG 7
(ERLA/) ERLANDER M.
(HUVA/) HUVAR A.
(PYAT/) PYATI J.
                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 2699 BP; 404 A; 988 C; 805 G; 502 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel isolated and purified human histamine H3 receptor protein useful for identifying modulators utilized for treating Parkinson's disease, obesity, Alzheimer's disease, pain, stress or ulcers.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; Parkinson's disease; obesity; Alzheimer's disease; pain; strulcer; constipation; non-insulin dependent diabetes mellitus; gene; histamine H3 receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 2; SEQ ID NO 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2004-592726/57.
P-PSDB; ADR31458.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         07-OCT-1998; 98US-00167354.
21-AUG-2000; 2000US-00642852.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human histamine H3 receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADR31456 standard; cDNA; 2699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Lovenberg TW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       02-DEC-2003; 2003US-00727021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US2004156845-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          04-NOV-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADR31456
                                                                                                                                                                                                                                                                                                atch 100.0%; Score 2699; cal Similarity 100.0%; Pred. No. 0; 2699; Conservative 0; Mismatches
                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sapiens
                                                                             61
                                                                                                                                 61
CCGCCTGCTCTGGCCCCGGCCCCCGGCCCCCGCGGACCATGCGCTGGGGGGCCCCCCAGGGGAA 180
                                                                                                          GCTGCAGCAGCCGCGCTCGGGCCCCACTGGGCTCGGATCCGGCCCCCCGGCCCCCTCGGCA
                                                                                                                                                                                                                     CCACGCGTCCGCCGGCTGCACGGTCGCACCGGCAGCGGCTCAGGCTCCGGCTCCTCTCCC
                                                                             GCTGCAGCAGCCGCCTGCCGGCCCCACTGGGCTCGGATCCGGCCCCCGGCCCCCTCGGCA
                                                                                                                                                                                           ccacecerceecrecaceerecaceecaeceecreaecrecaecreceecrecrecee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Erlander
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
299. .1636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /*tag= a
/product= "Human histamine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ξ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Σ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Huvar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      #1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Þ
                                                                                                                                                                                                                                                                                                                                                            DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ቼ
                                                                                                                                                                                                                                                                                                                                                         13;
                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              receptor
                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     r protein and for
                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                  Gaps
                                                                             120
                                                                                                                                    120
                                                                                                                                                                                     60
```

CTGGCAGAAGGGGCACGGGGAGGCCATGCCGCTGCACAGGTATGGGGTGAGGCGGC 1	GGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCAT GGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCAT GGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCAT GGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCAT GGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCAGCCTTCTTTAACCTCAGCAG GGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTTGGGGCTCGAGAGGGCAGCCGG CTACCTGAACATCCAGAGGCGCACCCCCCCCCC	601 CTICGGCCGGGGCCTCIGCAAGCIGIGGCAGCIACIGGIAGCIACCIGCTIGCACCICCTC 660 661 TGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTC 720 661 TGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTC 720 661 TGCCTTCAACATCGTGCTCATCAGCTACGACCGCTCCTGTCGGTCACCCGAGCGGTCTC 720 721 ATACCGGGCCCACCAGCAGGGTGACACCGCGGGGGGGAGATGCTGCTGGTGGGGT 780	GGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTGGC	181 ACCCGACCCGGCCAAGGGCCCGCAAAGACGAGGCTCCCGGGCCCGGCCCCTCCCGGCCCGCCAAGGGCCCGCAAAGACGAAGACGAGGCTCCCGGGCCCGCAAAGACCAAGACGAAGACGAAGCCAAGACCAAGACCAAGACCCAAGCCCGCCAAAGACCAAGACCAAGACCAAGACCAAGACCAAGACCAAGACCAAGACCAAGACCAAGACCAAGACCAAGACCAAGACCCTGCCGCGCCCCTCCCGGGCCCAT 300 241 CCCAAGCTCTCGGCCGCCCTGCCCCCGCGTCCCCGCAGCCCTGCGGGGCCCAT 300 241 CCCAAGCTCTCGGCCGCCCTGCCCCCGCGTCCCCGAGCCCGCTGAGCCTGCGGGGCCAT 300 301 GGAGCCGCCCGCCCCGCGCGCCCCGCGTCCCCGGAGCCGCTGGCGGGCCAT 300 301 GGAGCCGCCCCCCGCGCCGCGCCGCGCCTGAACGCTTGCGGGGGCGATGCGGC 360 361 GGCGCGCCGCCCCCGCGCGCCTCCCGGAACGCCTTCCGGGGGCCCTGCCGGCCG
Qy 2161 CTCTGCCCCAAAAGTGTCAAGGGGCCCTAGGAACCTGCAAGCTGTTCTCCA 2220	CCTTCTGTCTGCATAAGCCTCAGGCCTGGCCCTTCCACACTCT 2 CCTTCTGTCTGTCTTCCAAAACAAGCCTCAGGCCTTGCACACCCCTCTCCCACCCTCTCCCACCCTCTCCCACCCTCTCCCACCCTCTCCCCCC	QY 1741 CGCCGTGTCTGTGGCCCTCTCTTAATGCCACGGCAGCCATCGAGGGCGCCTTC 1800	Db 1501 GROCCAACTICGCCTTCAACCCCTACCCCTAACCCCTACCACAGCTTCCCCCAGGCTTCCCCCCAGGCTTCCCCCCAGGCTTCCCCCCAGGCTTCCCCCCAGGCTTCCCCCCAGGCTTCCCCCCAGGCTTCCCCCCAGGCTTCCCCCCAGGCTTCCCCCCAGGCTTCCCCCCAGGCTTCCCCCCAGGCTCCCCTGCAGGCTCCCTGCAGAATCCAGCCTCCCTGCAAATCCAGCCTCCCTGCAAATCCAGCCTCCCTGCAAATCCAGCCTCCCTGCAAATCCAGCCTCCCTGCAAATCCAGCCTCCCTGCAAATCCAGCCCCACAGCTCCCTGCAAATCCAGCCCCACAGCTCCCTGCAAATCCAGCCCCACAGGCTCCCTGCAAATCCAGCCCCACAGCTCCCTGCAAATCCAGCCCCACAGCTCCCTGCAAATCCAGCCCCACAGCTCCCTGCAAATCCAGCCCCACAGCCTCCTCCAGCCCCAGAAGTTCAGCCCCAGAAATCCAGCCCTCCCT	1261 GAGGGGCTCCAAGCCGTCGGGGGTCCTCGGCCTCGGAGAAGGGGCATGAAGATGGTGTC

```
S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          음 성 음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                            mACHR-6; muscarinic acetylcholine receptor 6; disorder; secretion; acetylcholine responsive cell; phosphatidylmositol turn-over; smooth muscle cell contraction; nervous system disorder; glandular; schizo-effective disorder; affective disorder; sleep disorder; movement disorder; eating disorder; drinking disorder; human; ss.
   This invention describes the isolation of a novel human muscarinic acetylcholine receptor 6 (mACHR-6), capable of modulating the effect acetylcholine on acetylcholine responsive cells. mACHR-6 CDNAs and polypeptides may be used to detect naturally occurring mutations of mACHR-6 gene and determine if a subject with the mutated gene is at
                                                                                                             Nucleic acids encoding modulating the effects
                                                                                                                                                                                   Goodearl
                                                                                                                                                                                                                                                                               16-MAR-1999.
                                                                                                                                                                                                                                                                                                       US5882893-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAX02885 standard;
                                                                             Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          17-MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAX02885
                                                                                                                                                                                                         (MILL-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2341
                                                                                                                                                 1999-214063/18.
DB; AAW92975.
                                                                            2j;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mACHR-6 cDNA
                                                                                                                                                                                                           MILLENNIUM
                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CACCCCGCCTCTGGGCTCACACCAGCCCTGGTGGCCAAGCCTGCCCCCGGCCACTCTGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTGCACCCGTGCCACGCGCTCTGCATGCTCTCTGCCTGTGCCCGCTGCGCTGCCCCTGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTGCACCCGTGCCACGCGCTCTGCATGCTCCTCTGCCTGTGCCCGCTGCGCTGCCCTGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAAGGCGTGCAGGGGCGGTCCAGAGGAGGTGCCCGGGCAGGGGCCGCTTCGCCATGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAAGGCGTGCAGGGGCGGTCCAGAGGGGGTGCCCGGGCAGGGGGCCGCTTCGCCATGTGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCTCACCCAGGACCTCTGGGGGTTGTTGGGAGGAGGGGCCCGGCCTGGGCCCGAGGGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCTCACCCAGGACCTCTGGGGGGTTGTTGGGAGGAGGGGCCCCGGCTGGGCCCCGAGGGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACCCCGCCTCTGGGCTCACACCAGCCCTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTT
                                                                           Fig 1A-D;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first
                                                                                                                                                                                                                                 97US-00985090
                                                                                                                                                                                                                                                        97US-00985090
                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers 291. .1628
                                                                                                                                                                                                                                                                                                                                         /*tag=
                                                                                                                                                                                                                                                                                                                             /product= "mACHR-6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CDNA;
                                                                                                                                                                                                           PHARM
                                                                           59pp;
                                                                                                              muscarinic acetylcholine receptor 6 - useful of acetylcholine on acetylcholine responsive
                                                                                                                                                                                                            INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2689
                                                                           English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          뫄
occurring mutations the mutated gene is
                                         effects
       of the
                                                                                                                           for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   . 2699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2400
                                           ō.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2520
```

```
CC activity mediated by mACHR-6 (e.g. biological processes mediated by CC phosphatidylinositol turn-over and signaling), secretion of a molecule CC (e.g. a neurotransmitter or a glandular enzyme), or contraction of a CC smooth muscle cell, treat disorders mediated by abnormal mACHR-6 activity CC e.g. nervous system disorders (e.g. amnesia, apraxia, agnosia, amnestic gpatial disorientation, Kluver-Bucy syndrome, CC Alzheimer's related memory loss and learning disability, visual CC hallucinations, perceptual disturbances, and Lewry body dementia CC associated delirium), schizo-effective disorders (e.g. schizophrenia with CC mood swings, and depressive illness), affective disorders, sleep abnormalities, CC disorders (e.g. REM sleep abnormalities, paradoxical sleep abnormalities, CC disorders (e.g. REM sleep), pain generating mechanism disorders (e.g. crelated to irritable bowel syndrome (IBs), or chest pain), movement CC disorders (e.g. related to parkinson's disease), eating disorders (e.g. related to parkinson's disease), eating disorders (e.g. cdiabetic polydipsia), smooth muscle related disorders (e.g. IBS, CC diverticular disease, urinary incontinence, oesophageal achalasia, and CC bradycardia or tachycardia, arrhythmia, flutter and fibrillation), and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of (or is predisposed to have)
                                                     disorders (e.g. xerostomia and diabetes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a mACHR-6 related disorder,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 modulate cell
```

Sequence 2689 BP; 393 A; 990 C; 806 G; 500 T; 0 U; 0 Other;

DΒ

2;

Length 2689;

Ş B Ś Ş б ş Ś S 밁 밁 Ś 밁 S Бр 5 В 멍 밁 밁 문 밁 Ś Matches 2659; Query Match Best Local 505 377 385 317 625 557 565 497 437 445 325 257 265 197 205 138 145 78 85 25 18 Similarity CAACTTCTTCCTGCTCAACCTCGCCATCTCCGACTTCCTCGTCGGCGCCCTTCTGCATCCC CCACTGGGCTCGGATCCGGCCCCGGCCCCCTCGGCACCGCCTGCTTCTGGCCCCCGGCCCCG GTGGCTGGTAGTGGACTACCTGCTGTGCACCTCCTCTGCCTTCAACATCGTGCTCATCAG ACTGTATGTACCCTACGTGCTGACAGGCCGCTGGACCTTCGGCCGGGGCCTCTGCAAGCT GCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTGGCCGACTCGAGCCTCCGCACCCAGAA CTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTCATGGCGCTCATCGTGGCCCACGGT CTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCGCTCATGGCGCTGCTCATCGTGGCCACGGT CCCGCGTCCCGGAGCCGCGTGAGCCTGCGGGGCCATGGAGCGCGCCGCCCGACGGGCC GCCCCGCGGACCATGCGCTGGGCGCCCCCAGGGGAAAACCCCGACCCGGCCAAGGGCCCGCA CCACTGGGCTCGGATCCGGCCCCGGCCCCTCGGCACCGCCTGCTCTGGCCCCGGCCCCG CGCACCGGCAGCGGCTCAGGCTCCGCTCTCTCCCGCTGCAGCAGCCGCGCTGCCGGCC ACTGTATGTACCCTACGTGCTGACAGGCCGCTGGACCTTCGGCCGGGGCCTCTGCAAGCT CAACTTCTTCCTGCTCAACCTCGCCATCTCCGACTTCCTCGTCGGCGCCTTCTGCATCCC GCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTGGCCGACTCGAGCCTCCGCACCCAGAA GCCCCGCGGACCATGCGCTGGGCGCCCCCAGGGG - AACCCGACCCGGCCAAGGGCCCGCA Conservative 97.6%; 0 Score Pred. Mismatches No. 0; ω • Indels 2; Gaps 684 616 624 556 564 496 504 436 444 376 384 316 324 256 264 196 204 137 144 77

1645 CCAGAGCCTCAGCCACGCCTCTCTCAGCCCAGGTCTCCTGGGCATCTGGCCCTGCT 1704	665 CTANGANCOCCITICCTORGOGRACCOGACCOGACCCAGACCCCAGACCCCAGACCCAGACCCAGACCCAGACCCAGACCCAGACCCAGACCCAGACCCAGACCCAGACCCAGACCCAGACCACACCAGACCAACACCAACACCAACACCAACACCAACACCAACACCAACAC
RESULT 10 AAX59167 ID AAX59167 standard; cDNA; 2689 BP. XX AC AAX59167; XX DT 06-SEP-1999 (first entry) XX DE Human G protein coupled receptor flh84g5 cDNA.	Db 1757 ANGCOAGGACACCTCOCCACGACACTCCCTCCACACACTCCCTCCCACACTCCCTCC

5 맑 δ 유성 음 성

유

밁 ð B S

2055 2064 1995

2004 1935 1944 1875 1884 1816

음 성 음

S 음 성

음 성

Ş

δ 문 δ 유 성

유 성

밁 Ş 8 δ 片 δ

2664

2535

2544

2604

2595

2655

2415 2424

2475 2484 2364 2295 2304 2235 2244 2175 2184 2115 2124

```
This nucleotide sequence, the coding region of which is claimed, codes for a novel human 6 protein coupled receptor, termed filh495 (see CR ANY05122). The filh495 forgement (see also ANY59168) as probe. The clibrary using a rat filh495 fragment (see also ANY59168) as probe. The clibrary using a rat filh495 fragment (see also ANY59168) as probe. The clibrary using a rat filh495 fragment (see also ANY59168) as probe. The clibrary using a rat filh495 fragment (see also ANY59168) as probe. The clibrary using a rat filh495 fragment (see also ANY59168) as probe. The clibrary using a rat filh495 polypeptides and antibodies; and a method of modulating polynucleotides end of antibodies and antibodies and a method of condulating phosphatidylinositol metabolism. The filh495 polypeptides can civing consider with a filh495 ligand, such as acetylcholine or carnitine, condulate sytosolic ion, e.g. calcium concentration, (v) modulate the activity of an ion channel, (iv) modulate cytosolic ion, e.g. calcium concentration, (v) modulate cytosolic volumes and potassium or calcium channel, (iv) condulate phospholipase cativity. The products can be used to treat: condulate phospholipase cativity. The products can be used to treat: condulate phospholipase cativity. The products can be used to treat: condulate phospholipase cativity. The products can be used to treat: condulate phospholipase cativity. The products can be used to treat: condulate phospholipase cativity. The products can be used to treat: condulate phospholipase cativity. The products can be used to treat: condulate phospholipase cativity. The products can be used to treat: condulate phospholipase cativity. The products can be used to treat.

CC animetric dysonala, ammestic spatial disorders such as REM sleep cativity such as cativity to disorders, schizophrenia with mood swings, depressive illness of pai
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  G protein coupled receptor; flh84g5; human; diagnosis; screening; therapy; antiparkinsonian; nootropic; neuroprotective; neuroleptic; antidepressant; antiarrythmic; antideabetic; antiinflammatory;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     04-DEC-1997;
17-MAR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           phosphatidylinositol;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO9928470-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (MILL-) MILLENNIUM PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  nucleic acid encoding an isolated G-protein treating nervous system related disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Fig 1; 140pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Glucksmann MA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 97US-00985090
98US-00042780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   98WO-US025832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
291. .1628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /*tag= a
/note= "this region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Xie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Z,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Distefano
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      specifically
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                coupled receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      claimed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim
```

```
밁
                                                    S
                                                                             밁
                                                                                           á
                                                                                                                      밁
                                                                                                                                       S
                                                                                                                                                              밁
                                                                                                                                                                                  S
                                                                                                                                                                                                           밁
                                                                                                                                                                                                                              Ś
                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                 S
                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 2659; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 2689 BP; 393 A; 990
                                                                                                                                                                                                           677
                                                                                                                                                                                                                                                      617
                                                                                                                                                                                                                                                                                                 557
                                                                                                                                                                                                                                                                                                                                            497
                                                                                                                                                                                                                                                                                                                                                                  505
                                                                                                                                                                                                                                                                                                                                                                                     437
                                                                                                                                                                                                                                                                                                                                                                                                                                377
                                                      925
                                                                             857
                                                                                                865
                                                                                                                      797
                                                                                                                                           805
                                                                                                                                                                 737
                                                                                                                                                                                    745
                                                                                                                                                                                                                                685
                                                                                                                                                                                                                                                                           625
                                                                                                                                                                                                                                                                                                                                                                                                            445
                                                                                                                                                                                                                                                                                                                                                                                                                                                      385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCACTGGGCTCGGATCCGGCCCCGGCCCCTCGGCACCGCCTGCTCTGGCCCCCGGCCCCG
GCGGCGGGCAGTGCCGGAAGATGCTGCTGGTGTGGGGTGTGGGCCTTCCCTGCTGTACGGACC
                                                                                                                                                                                                                                                                                                                                                       CAACTTCTTCCTGCTCAACCTCGCCATCTCCGACTTCCTCGTCGGCGCGCCTTCTGCATCCC
                                                 GCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCATCTACCTGAACATCCAGAGGGGGAAC
                                                                                         TGCCGAGTTCTTCTACAACTGGTACTTCCTCATCACGGCTTCCACCCTGGAGTTCTTTAC
                                                                                                                                 AGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGCAGCTCCATCCCCGAGGGCCACTGCTA
                                                                                                                                                                                                                      CTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTCATACCGGGCCCAGCAGGGTGACAC
                                                                                                                                                                                                                                                      GTGGCTGGTAGTGGACTACCTGCTGTGCACCTCCTCTGCCTTCAACATCGTGCTCATCAG
                                                                                                                                                                                                                                                                 GTGGCTGGTAGTGGACTACCTGCTGTGCACCTCCTCTGCCTTCAACATCGTGCTCATCAG
                                                                                                                                                                                                                                                                                                            ACTGTATGTACCCTACGTGCTGACAGGCCGCTGGACCTTCGGCCGGGGCCTCTGCAAGCT
                                                                                                                                                                                                                                                                                                                                                                                                   GCTGGGCAACGCGCTCGTTCATGCTCGCCTTCGTGGCCGACTCGAGCCTCCGCACCCAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTCATGGCCACGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCCCGCGGACCATGCGCTGGGCGCCCCCAGGGGAAACCCGACCCGGCCAAGGGCCCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCACTGGGCTCGGATCCGGCCCCGGCCCCTCGGCACCGCCTGCTCTGGCCCCCGGCCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCACCGGCAGCGGCTCAGGCTCCGGCTCCTCCCCGCTGCAGCAGCCGCGCTGCCGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGCACCGGCAGCGGCTCAGGCTCCCGGCTCTCCCCGCTGCAGCAGCCGCGCTGCCGGCC
                                                                       TGCCGAGTTCTTCTACAACTGGTACTTCCTCATCACGGCTTCCACCCTGGAGTTCTTTAC
                                                                                                                                                                 GCGGCGGCAGTGCGGAAGATGCTGCTGGTGTGGGTGCTGGCCTTCCTGCTGTACGGACC
                                                                                                                                                                                                            CTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTCATACCGGGCCCAGCAGGGTGACAC
                                                                                                                                                                                                                                                                                                 ACTGTATGTACCCTACGTGCTGACAGGCCGCTGGACCTTCGGCCGGGGCCTCTGCAAGCT
                                                                                                                                                                                                                                                                                                                                            CAACTTCTTCCTGCTCAACCTCGCCATCTCCGACTTCCTCGTCGGCGCCCTTCTGCATCCC
                                                                                                                                                                                                                                                                                                                                                                                      GCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTGGCCGACTCGAGCCTCCGCACCCAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  97.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         °;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 2635.2;
Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    806 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ω
--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                   976
                                                       984
                                                                             916
                                                                                                 924
                                                                                                                      856
                                                                                                                                           864
                                                                                                                                                                 796
                                                                                                                                                                                     804
                                                                                                                                                                                                            736
                                                                                                                                                                                                                                744
                                                                                                                                                                                                                                                      676
                                                                                                                                                                                                                                                                           684
                                                                                                                                                                                                                                                                                                 616
                                                                                                                                                                                                                                                                                                                      624
                                                                                                                                                                                                                                                                                                                                           556
                                                                                                                                                                                                                                                                                                                                                                564
                                                                                                                                                                                                                                                                                                                                                                                      496
                                                                                                                                                                                                                                                                                                                                                                                                                                 436
                                                                                                                                                                                                                                                                                                                                                                                                                                                      444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 77
```

```
2056
                               2065
                                                               1996
                                                                                          2005
                                                                                                                          1936
                                                                                                                                                       1945
                                                                                                                                                                                    1876
                                                                                                                                                                                                                  1885
                                                                                                                                                                                                                                               1817
                                                                                                                                                                                                                                                                                                           1757
                                                                                                                                                                                                                                                                                                                                           1765
                                                                                                                                                                                                                                                                                                                                                                                                     1705
                                                                                                                                                                                                                                                                                                                                                                                                                                    1637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1045
                                                                                                                                                                                                                                                                             1825
                                                                                                                                                                                                                                                                                                                                                                        1697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  977
CTCTCCCCGGACAAGCCCAGGACACTGCCTTTGCTGCCTTCTGTCTTTGCATAAGCCTC
                                                                                                                                                                                                     GGGACAGTCTGGAGGTCCCAGACATGCTGCCCACCCCCTGCTGGTGCCCACCCCTTCGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCAGAGCCTCCCTCAGCCACGCCTCTCAGCCCAGGTCTCCTGGGCATCTGGCCCTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCCTCACCACCCCCCCCCCGCTGGCTGCTGGGGGCTGCTGGCAGAAGGGGCACGGGGAACGG
                                                                            GCAGTTTGCCTCTGCACGTGCACACACCCTGCACACCCCTGCACACCCTGCACACCCGTCC
                                                                                                                                          TTACTGGTTGGTTCTTCCCAAAGCAAGCTGCGGTGTGCTCCAGGCTTCCTGCCCTA
                                                                                                                                                                                     GGGACAGTCTGGAGGTCCCAGACATGCTGCCCACCCCCTGCTGGTGCCCACCCTTCGCAG
                                                                                                                                                                                                                                               CTGGCTGGACTGGACGCTGGCCCGGCCCCCACATTCTGGCTCCACC-GGGA
                                                                                                                                                                                                                                                                   CTGGCTGGACTGGAGGCTGGGTGGCCGGCCCTGCCCCCACATTCTGGCTCCACCGGGGA
                                                                                                                                                                                                                                                                                                          ATGCCACGGCACCACCCTGCCATGGAGGCGCCTTCCTGGGTTGGCCAGAGGGCCCCTCA
                                                                                                                                                                                                                                                                                                                                ATGCCACGGCAGCCCTCCCATGGAGGCGCCTTCCTGGGTTGGCCAGAGGGCCCCTCA
                                                                                                                                                                                                                                                                                                                                                                     CCCTGACTACTGGTACGAAACCTCCTTCTGGCTCCTGTGGGCCAACTCGGCTGTCAACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTGGCCGTCATCGTGAGCATCTTTGGGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTGGCCGTCATCGTGAGCATCTTTGGGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTCCTCGAGGGGCACTGAGAGGCCCCCCCTCACTCAAGAGGGGGCTCCCAAGCCCGTCGGCGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTCCTCGAGGGGCACTGAGAGGCCGCGCTCACTCAAGAGGGGCTCCCAAGCCGTCGGCGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CATGCCGCTGCACAGGTATGGGGTGGGGTGAGGCGGCGGTAGGCCGCTGAGGCCGGGGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CATGCCGCTGCACAGGTATGGGGTTGGGTGAGGCCGGTAGGCCGCTGAGGCCGGGGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCCTCACCACCCCACCGCCTGCTGCTGGGGCTGCTGCCAGAAGGGGCACGGGAGGC
                                                              GCAGTTTGCCTCTGCACGTGCACACACCTGCACACCCTGCACACCTGCACACCGTCC
                                                                                                                         TTACTGGTTGGTTCTTCCCAAAGCAAGCACCTGGGTGTGCTCCAGGCTTCCTGCCCTA
                                                                                                                                                                                                                                                                                                                                                                                                     GCCCCTACCCGGCTCGTTCCCCCAGGGGTGAGCCCCGCCGTGTCTGTGGCCCTCTCTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                    CCAGAGCCTCCCTCAGCCACGCCTCTCTCAGCCCAGGTCTCCTGGGCATCTGGCCCTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGTCCTCTACCCTCTGTGCCACCACAGCTTCCGCCGGGCCTTCACCAAGCTGCTCTGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGTCCTCTACCCTCTGTGCCACCACAGCTTCCGCCGGGCCTTCACCAAGCTGCTCTGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCCTGACTACTGGTACGAAACCTCCTTCTGGCTCCTGTGGGCCAACTCGGCTGTCAACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTGCTGGGCCCCATACACGCTGCTGATGATCATCCGGGCCGCCTGCCATGGCCACTGCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTGCTGGGCCCCATACACGCTGCTGATGATCATCCGGGCCGCCTGCCATGGCCACTGCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCCCGGAGCCCCCTCCCGAGGCCCA 1036
                                                                                                                                                                                                                                                                             1884
                                                                                                                         1995
                                                                                                                                                                                                                                                                                                           1816
                                                                                                                                                                                                                                                                                                                                          1824
                                                                                                                                                                                                                                                                                                                                                                        1756
                                                                                                                                                                                                                                                                                                                                                                                                     1764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                1704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1456
                              2124
                                                                                                                                                       2004
                                                                                                                                                                                    1935
                                                                                                                                                                                                                                               1875
                                                                                                                                                                                                                                                                                                                                                                                                                                   1696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1516
 2115
                                                            2055
                                                                                          2064
                                                                                                                                                                                                                1944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1096
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1104
```

```
δ
                                      В
                                                    S
                                                                         В
                                                                                                Ó
                                                                                                                  유정
                                                                                                                                                               В
                                                                                                                                                                                5
                                                                                                                                                                                                  닭
                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                      뭥
                                                                                                                                                                                                                                                                                                           Ś
                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                       밁
밁
                                                                                                                                                                                                                                                                                                                                                                                        Ş
 2656
                    2665
                                                                                                                         2476
                                                                                                                                           2485
                                                                                                                                                               2416
                                                                                                                                                                                    2425
                                                                                                                                                                                                       2356
                                         2596
                                                            2605
                                                                               2536
                                                                                                    2545
                                                                                                                                                                                                                            2365
                                                                                                                                                                                                                                                 2296
                                                                                                                                                                                                                                                                    2305
                                                                                                                                                                                                                                                                                         2236
                                                                                                                                                                                                                                                                                                             2245
                                                                                                                                                                                                                                                                                                                                                     2185
                                                                                                                                                                                                                                                                                                                                                                          2116
                                                                                                                                                                                                                                                                                                                                                                                              2125
                                                                                                                                                                           GCCCTGGTGGCCAAGCCTGCCCGGCCACTCTGTTTGCTCACCCAGGACCTCTGGGGGGTT
                                                                                                                                                                                                                                                                                                                                                                         ATTTTTTAAAAAAAAAAAAAA
          GGAGGTGCCCGGGCAGGGGCCGCTTCGCCATGTGCTGCACCCGTGCCACGCGCTCTGC
                                                                                                                       GTTGGGAGGAGGGGCCCGGCTGGGCCCGAGGGTCCCAAGGCGTGCAGGGGGGGCGGTCCAGA
                                                                                                                                                                                                                   AAGGCTTCCGGCTGAGCTGTGCCAGCTGCTTCTGCCCACCCCGCCTCTGGGCTCACACCCA
                                                                                                                                                                                                                                                                                                                                               GCCCTAGGAACCTCGAAGCTGTTCTCTGTGTTTTCCATTCTGGGTGTTTTTCAGAAAGATGA
                                                   ATGCTCCTCTGCCTGTGCCCGCTGCGCTGCCCTGCAAACCGTGAGGTCACAATAAAGTGT
                                                                               GGAGGTGCCCGGGCAGGGGCCTCGCCATGTGCTGTGCACCCGTGCCACGCGCTCTGC
                                                                                                                                             GTTGGGAGGAGGGGCCCGGCTGGGCCCGAGGGTCCCAAGGCGTGCAGGGGCGGTCCAGA
                                                                                                                                                                 GCCCTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTTGCTCACCCAGGACCTCTGGGGGTT
                                                                                                                                                                                                         AAGGCTTCCGGCTGAGCTGCCAGCTGCTTCTGCCCACCCCGCCTCTGGGCTCACACCA
                                                                                                                                                                                                                                                 TGCTGAGGAGCTCAGGGCTGGATTGGCAGGTGTGGGCTCCCACGCCCTCCTCCCCTCCGCT
                                                                                                                                                                                                                                                           AGAAGAAAACATGTCTGTGAACTTGATGTTCCTGGGATGTTTAATCAAGAGAGACAAAAT
                                                                                                                                                                                                                                                                                                    GCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTCCATTCTGGGTGTTTTCAGAAAGATGA
 2679
                                         2655
                                                                                                                         2535
                                                                                                                                                                                    2484
                                                                                                                                                                                                         2415
                                                                                                                                                                                                                            2424
                                                                                                                                                                                                                                                                                                                                                      2244
                                                            2664
                                                                               2595
                                                                                                                                             2544
                                                                                                                                                                 2475
                                                                                                                                                                                                                                                  2355
                                                                                                                                                                                                                                                                                                                                   2235
                                                                                                                                                                                                                                                                                                                                                                          2175
                                                                                                    2604
                                                                                                                                                                                                                                                                     2364
                                                                                                                                                                                                                                                                                          2295
                                                                                                                                                                                                                                                                                                             2304
                                                                                                                                                                                                                                                                                                                                                                                              2184
```

```
Human muscarinic acetylcholine receptor 6 encoding cDNA SEQ
                         20-MAR-2003
01-NOV-2001
                                                                                      AAH44572
                                                                                      standard;
                        (revised)
(first en
                                                                                      CDNA;
                         entry)
                                                                                       2689
                                                                                       ВÞ
```

ij NO:1.

Human; muscarinic acetylcholine receptor 6; mACHR-6; detection; antiparkinsonian; nootropic; neuroprotective; neuroleptic; antidiabetic; antidepressant; antiarrhythmic; antiinflammatory; carnitine; pain; G-protein coupled receptor; nervous system related disorder; xerostomia; disorders affecting consciousness; affective disorder; movement disorder; irritable bowel syndrome; drinking disorder; gland related disorder; smooth muscle related disorder; cardiac muscle disorder; eating disorder; diabetes mellitus; diagnosis; drug screening; ss.

sapiens

```
RESULT 11
AAH4457
ID AAH44
XX AAH44
AC AAH44
XX 20-MJ
DT 20-MJ
DT 01-NC
XX Humar
XX 
                                                                       25-JUL-2000
                                                                                                                                                                             US6093545-A
                                                                                                                                                                                                                                                                                                                                                                                                    291. .1628
                                                                                                                                                                                                                                                                                              'product= "muscarinic
                                                                                                                                                                                                                                                                                                                                                          /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                    acetylcholine
```

밁 S В Ś β δ

δ 멍 δ 밁 Ś 유

유 성 유

δ

유성유

Ş В

& 함

5 5 5 B S B

Ş 밁 중 유 Ś 밁

684 919 736

796 864 856 924

\$2 X C C C C C C C C C C C X S X F F X F B X X F F X F X F F X F F X F F X F F X F F X F F X F F X F F X F F X F F X

804

556

564

```
CCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCCGGCCCCGAGCCCCCTCCCGAGGCCCCA 1044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                careccecrecacadenaresegresegresegececerasegecereasegecesesege 1156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCCTGACTACTGGTACGAAACCTCCTTCTGGCTCTGTGGGCCAACTCGGCTGTCAACCC 1524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCCTGACTACTGGTACGAAACCTCCTTCTGGCTCCTGTGGGCCAACTCGGCTGTCAACCC 1516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGTCCTCTACCCTCTGTGCCACCACAGCTTCCGCCGGCCTTCACCAAGCTGCTCTGCCC 1584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCATCTACCTGAACATCCAGAGGCGCAC 984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1037 GCCCTCACCACCCCCACGCCTGCTGCTGGCTGCTGCTGCTGGCAGAAGGGGCCACGGGGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTCGGCCTCACTGGAGAAGCGCATGAAGATGGTCCCCAGAGCTTCACCCAGCGCTTTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTCCTCGAGGGGCACTGAGAGGCCGCGCTCACTCAAGAGGGGCTCCAAGCCGTCGGCGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCCCTCACCACCCCCACGCCTGCTGCTGGGGCTGCTGGCAGAAGGGGGCACGGGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CATGCCGCTGCACAGGTATGGGGTGAGGCGGCCGTAGGCGCTGAGGCCGGGGAAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAACTICTICCIGCICAACCTCGCCAICTCCGACTICCTCGTCGGCGCCTICTGCATCCC
                                                                                                GTGGCTGGTAGTGGACTACCTGCTGTGCACCTCCTCTGCCTTCAACATCGTGCTCATCAG
                                                                                                                                                                                                                        CTACGACCGCTTCCTGTCGTCACCCGAGCGGTCTCATACCGGGCCCAGCAGGTGACAC
                                                                                                                                                                                                                                                                                       GCGGCCGGCAGTGCGGAAGATGCTGCTGGTGTGGGTGCTGGCCTTCCTGCTGTACGGACC
                                                                                                                                                                                                                                                                                                                                                          AGCCATCCTGAGCTGGGGAGTACCTGTCCGGGGGCAGCTCCATCCCGAGGGCCACTGCTA
                                                                                                                                                                                                                                                                                                                                                                                                        TGCCGAGTTCTTCTACAACTGGTACTTCCTCATCACGGCTTCCACCCTGGAGTTCTTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTGGCCGTCATCGTGAGCATCTTTGGGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CIGCTGGCCCCATACACGCTGCTGATGATCATCCGGGCCGCCTGCCATGGCCACTGCGT
                                                                                                                                                                                                   CTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTCATACCGGGCCCAGCAGGGTGACAC
                                                                                                                                                                                                                                                                                                                                         AGCCATCCTGAGCTGGGAGTACCTGTCCGGGGCAGCTCCATCCCCGAGGGCCACTGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGCTGGGCCCCATACACGCTGCTGATGATCATCCGGGCCGCCTGCCATGGCCACTGCGT
                                                                                                                                                                                                                                                                                                                                                                        . 797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1157
                                                                                                                                                                 617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1457
                                 497
                                                                                                  557
                                                                                                                                                                                                                                    677
                                                                                                                                                                                                                                                                                                       737
                                                                                                                                                                                                                                                                                                                                                                                                                                           857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1397
 505
                                                                  265
                                                                                                                                    625
                                                                                                                                                                                                      685
                                                                                                                                                                                                                                                                        745
                                                                                                                                                                                                                                                                                                                                         805
                                                                                                                                                                                                                                                                                                                                                                                                            865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1525
                                                                                         셤
                                                                                                                                                                a
                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                   ď
                                                                                                                                                                                                                                                                                                                                                                                                                                           유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                             임
                                                                 δ
                                                                                                                                  8
                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                The present sequence encodes human muscarinic acetylcholine receptor 6

(mACHR-6), which is a member of the G family of proteins. mACHR-6 has

antiparkinsonian, nootropic, neuroprotective. neuroleptic, antidiabetic

antidepresant, antiarrhythmic and antidialmamatory activities. The mACHR

c antidepresant, is capable of modulating the effects of a G-protein coupled

receptor (GPCR) ligand such as acetylcholine or an acetylcholine like

c molecule such as carnitine, e.g. by modulating phospholipase C

c signalling/activity. Products from the present invention can be used for

treating disorders mediated by abnormal mACHR-6 protein activity such as

nervous system related disorders, disorders affecting consciousness,

affective disorders such as REM sleep abnormalities, disorders affecting

c pain generation mechanisms such as pain related to irritable bowel

syndrome or chest pain, movement disorders, eating disorders, drinking

disorders, smooth muscle related disorders, cardiac muscle disorders, and

c gland related disorders such as xerostomia or diabetes mellitus. The

products can also be used for detection, diagnosis and drug screening.

(Updated on 20-MAR-2003 to correct DR field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTGGCCCGACTCGAGCCTCCGCACCCCAGAA 496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 77
                                                                                                                                                                                                   nucleic acid encoding an isolated G-protein coupled receptor useful treating nervous system related disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCACTGGGCTCGGGTCCGGCCCCCTGGCACCGCCTGCTGCTCGGCCCCGGCCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCCCCGCGGACCATGCGCTGGGGCCCCCCAGGG-AACCCGACCGGCCAAGGGCCCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTGGCCCGACTCGAGCCTCCGCACCCAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCCGCGTCCCGGAGCCGCGTGAGCCTGCGGGGCCATGGAGCGCGCCGCCCGACGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTCATGGCGCTGCTCATCGTGGCCACGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCCCGCGGACCATGCGCTGGGCGCCCCCAGGGGAAACCCGGCCCGGCCAAGGGCCCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 2; Length 2689;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 2689 BP; 393 A; 990 C; 806 G; 500 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 2635.2; Pred. No. 0; Mismatches
                                                                                                                                                                                                                                                      Claim 3; Fig 1; 64pp; English
                               97US-00985090.
98US-00042780.
98US-00165543
                                                                                  (MILL-) MILLENNIUM PHARM INC
                                                                                                                  Glucksmann MA, Goodearl ADJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               vuery Match 97.6%;
Best Local Similarity 99.8%;
Matches 2659; Conservative (
                                                                                                                                                   1999-394858/33.
                                                                                                                                                                     P-PSDB; AAG67830.
                                                 17-MAR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 377
                                                                                                                                                                                                      New
```

g

ð

g

ઠે

g

8

g

ઠે

ò

g

8 8 8

q ઠે 8

1036 1104 1096 1164

916

1284

1344

1404 1396 1464 1456

ò 8 8 셤 ò 셤 ò g ò 음 ò 셤 ò g ઠે g ò 셤 ઠે 셤 ò d ò g ò a ò 요 ઠે 셤 ò g ò 요

```
2115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2655
                                                                                                             1696
                                                                                                                                                      1764
                                                                                                                                                                                              1756
                                                                                                                                                                                                                                       1824
                                                                                                                                                                                                                                                                                 1816
                                                                                                                                                                                                                                                                                                                                                                    1875
                                                                                                                                                                                                                                                                                                                                                                                                              1944
                                                                                                                                                                                                                                                                                                                                                                                                                                                     1935
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2664
                                                                   1704
                                                                                                                                                                                                                                                                                                                          1884
1876 GGGACAGTCTGGAGGTCCCAGCATGCTGCCCACCCCTGCTGGTGCCCACCCTTCGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1936 TTACTGGTTGGTGTTCTTCCCAAAGCAAGCACCTGGGTGTGCTCCAGGCTTCCTGCCCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2116 AGGCCTGGCCCTTTCACCCCTCTTCCCACCACTCTCTGTCTCTGCCCCAAAAGTGTCCAAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2356 AAGGCTTCCGGCTGAGCTGTGCCAGCTGCTTCTGCCCACCCCGCCTCTGGGCTCACCACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2416 GCCCTGGTGGCCCAGGCCCCGGCCACTTTGCTCACCCCAGGACCTCTGGGGGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2476 GTTGGGAGGGGGCCCGGCTGGGCCCGAGGTCCCAAGGCGTGCAGGGGGCGGTCCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2605 AIGCICCICIGECCCGCTGCCCTGCCTGCAAACCGTGAGTCAAAAAGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2596 ATGCTCCTCTGCCTGTGCCCGCTGCGCTGCCCTGCAAACCGTGAGTCACAATAAAGTGT
                                                                 CCAGAGCCTCCCTCCAGCCACGCCTCTCTCAGCCCAGGTCTCTGGGCATCTGGCCCTGCT
                                                                                                                                                  GCCCCCTACCCGGCTCGTTCCCCCAGGGGTGAGCCCCGCGCGTGTCTGTGGCCCCTCTTA
                                                                                                                                                                                            1697 GCCCCCTACCCGCTCGTTCCCCCAGGGGTGAGCCCCGCGTGTCTGTGGCCCTCTTTA
                                                                                                                                                                                                                                     ATGCCACGCCACCCTGCCATGGAGGCGCCTTCCTGGGTTGGCCAGAGGGCCCCTCA
                                                                                                                                                                                                                                                                                 1757 ATGCCACGGCAGCCACCCTGCCATGGAGGCGCCTTCCTGGGTTGGCCAGAGGGCCCCTCA
                                                                                                                                                                                                                                                                                                                        CTGGCTGGACTGGAGGCTGGCCCGGCCCTGCCCCCCACATTCTGGCTCCACCGGGGA
                                                                                                                                                                                                                                                                                                                                                                1817 crederedakeregakeerederegeeegeeereeeeeegearreregereeaer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCAGTTTGCCTCTGCACGTGCACACCTGCACACCCTGCACACACCTGCACACGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTCTCCCCGGACAAGCCCAGGACACTGCCTTTGCTGCCTTCTGTCTTGCATAAGCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2056 CICICCCCGGACAAGCCCAGGACACTGCCTTTGCTGCCTTCTGTGCTCTCTTGCTGCATAAGCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2125 AGGCCTGGCCCTTTCACCCCTCTTCCCAACTCTCTCTGCCCCCAAAAGTGTCAAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTCCATTCTGGGTGTTTTCAGAAGATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2176 GCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTCCATTCTGGGTGTTTTCAGAAAGATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGAAGAAAACATGTCTGTGAACTTGATGTTCGTGGGATGTTTAATCAAGAGAGACAAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2296 recreaceacercadecrearrageacercreacecreceacecrecercecer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAGGCTTCCGGCTGAGCTGTCCAGCTGCTTCTGCCCACCCCGCCTCTGGGCTCACACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCCTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTTGCTCACCCCAGGACCTCTGGGGGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2536 GGAGGTGCCCGGGCAGGGGCCGCTTCGCCATGTGCTGTGCACCCGTGCCACGCGCTCTGC
                                                                                                        1637 cchadaccrcccrchadccacaccrcrcrcradcccaagarcrcaacchrcradccracr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTACTGGTTGGTGTTCTTCCCAAAGCAAGCACCTGGGTGTGTGCTCCAGGCTTCCTGCCCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGGACAGTCTGGAGGTCCCAGACATGCTGCCCCACCCCCTGCTGGTGCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTITITAAAAAAAAAAAAAA 2688
|||||||||||||||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2065
                          1577
                                                                   1645
                                                                                                                                                    1705
                                                                                                                                                                                                                                       1765
                                                                                                                                                                                                                                                                                                                        1825
                                                                                                                                                                                                                                                                                                                                                                                                           1885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2665
```

```
Human; ss; gene; mACHR-6; muscarinic acetylcholine receptor-6; cognitive disorder; amnesia; amnestic spatial disorientation; Kluver-Bucy syndrome, Alzheimer's related memory loss; Huwer-Bucy syndrome, Alzheimer's related memory loss; delating disability; consciousness disorder; visual halucination; affective disorder; schizophrenia; depression; affective disorder; sleep disorder; pain generation disorder; irritable bowel syndrome; chest pain; movement disorder; harkinson's disease; eating disorder; insulin hypersecretion obesity; heart muscle disorder; bradycardia; tachycardia; arrhythmia; flutter; fibrillation; gland related disorder; xerostomia; diabetes mellitus.
                                                                                                          Human cDNA encoding muscarinic acetylcholine receptor 6, mACHR-6,
2656 ATTTTTTAAAAAAAAAAAAA 2679
                                               BP.
                                               ABX11852 standard; cDNA; 2689
                                                                                      (first entry)
                                                                                      10-MAY-2003
                                                                   ABX11852;
                                      ABX11852
셤
```

Location/Qualifiers 291. .1628 Homo sapiens.

/*tag= a /product= "mACHR-6"

US2002166131-A1. 07-NOV-2002

97US-00985090. 98US-00042780. 99US-00349755 08-JUL-1999; 04-DEC-1997; 17-MAR-1998;

(MILL-) MILLENNIUM PHARM INC.

Goodearl ADJ, Glucksmann MA; WPI; 2003-298709/29.

P-PSDB; ABG76405

New muscarinic acetylcholine receptor 6 (mACHR-6) nucleic acids and proteins, useful for modulating acetylcholine or phosphatidylinositol, particularly for treating e.g. schizophrenia, chest pain, tachycardia or arrhythmia.

Claim 7; Fig 1; 66pp; English.

The invention relates to an isolated human or rat muscarinic acetylcholine receptor 6 (mACHR-6) nucleic acid molecule and the encoded protein. Also included are (non-human) host cells comprising the mACHR-6 nucleic acid molecule, an antibody that selectively bind the polypeptide above, a method for producing the polypeptide by culturing the host cells concern and the polypeptide and mucleic acid, a method for detecting the presence of the mACHR-6 nucleic acid is expressed, a method for detecting the presence of the mACHR-6 polypeptide and mucleic acid, a method for dentifying a compound that binds to the mACHR-6 polypeptide and a method for conclusing the activity of the mACHR-6 polypeptide. The mACHR-6 polypeptide and a method for dor modulating the activity of the mACHR-6 polypeptide. The mACHR-6 polypeptide or modulator are useful in drug screening, pharmacogenetic testing, methods of treatment, the mACHR-6 polymucleotide, polypeptide or antibody is useful corricular, the mACHR-6 polymucleotide, polypeptide or antibody is useful for treating or diagnosing cognitive disorders (e.g. amnesia, amnestic spatial disorientations, Kluver-Bucy syndrome, Alzheimer's related memory loss or learning disability), disorders affecting consciousness (e.g. schizophrenia or depression), affective disorders (e.g. sleep disorders),

```
CGCCTCCGGCTGGATGGGGCTCGAGAGCAGCCGGCCCCCGGAGCCCCTCCCGGAGGCCCA
                                                                                              GCCCTCACCACCCCCCACGCTGGCTGCTGGGGGCTGCTGGCAGAAGGGGCACGGGGAGGC
                                                                                                                                   CTCTTCGAGGGGCACTGAGGCCGCGCTCACTCAAGAGGGGGCTCCAAGCCGTCGGCGTC
                                                                                                                                                                                                                                       CTCGGCCTCGCTGGAGAGCGCATGAAGATGGTGTCCCAGAGCTTCACCCAGCGCTTTCG
                                                                                                                                                                                                                                                CTCGGCCTCACTGGAGAAGGGCATGAAGATGGTGTCCCCAGAGCTTCACCCCAGGCGCTTTCG
                                                                                                                                                                                                                                                                          CCCTGACTACTGGTACGAAACCTCCTTCTGGGCTCCTGTGGGCCAACTCGGCTGTCAACCC
                                                                                                                                                                                                                                                                                                                                                                                        GGGACAGTCTGGAGGTCCCAGACATGCTGCCCACCCCTGGTGGTGCCCACCCTTCGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCCCTTCCTCAGCGTCACCTTTAACCTCAGCATCTACCTGAACATCCAGAGGCGCAC
                                                                                                                                                              CTCCTCGAGGGGCACTGAGAGGCCGCGCTCACTCAAGAGGGGGCTCCAAGCCGTCGGCGTC
                                                                                                                                                                                                                                                                                                                                                               CCCTGACTACTGGTACGAAACCTCCTTCTGGTTCTGTGGCTCCAACTCGGCTGTCAACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCCCCTACCCGGCTCGTTCCCCCCAGGGGTGAGCCCCGCCGTGTCTGTGGCCCTCTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGCCACGCCACCCTGCCATGGAGGCGCCTTCCTGGGTTGGCCAGAGGGCCCCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATGCCACGCCACCACCCTGCCATGGAGGCGCCTTCCTGGGTTGGCCAGAGGGCCCCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CATGCCGCTGCACAGGTATGGGGTGGGTGAGGCGGCCGTAGGCGCTGAGGCCGGGGAGGC
                                                                                                                                                                                                                                                                                                                          CTGCTGGGCCCCATACACGCTGCTGATGATCATCCGGGCCGCCTGCCATGGCCACTGCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCAGAGCCTCCCTCAGCCACGCCTCTCTCAGCCCAGGTCTCCTGGGCATCTGGCCTTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCCCCTACCCGGCTCGTTCCCCCAGGGGTGAGCCCCCGCGGTGTCTGTGGCCCTCTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTGGCTGGACTGGAGGCTGGGTGGCCGGCCCTGCCCCCCACATTCTGGCTCCACCGGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGGACAGTCTGGAGGTCCCAGACATGCTGCCCACCCCTGCTGCTGCCCACCCTTCGCAG
                                                                                                                                                                                                                                                                                                                CTGCTGGGCCCCATACACGCTGCTGATGATCATCCGGGCCGCCTGCCATGGCCACTGCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCAGAGCCTCCCTCAGCCACGCCTCTCAGCCCAGGTCTCCTGGGCATCTGGCCTGCT
                                                                                    1045
                                                                                                       1037
                                                                                                                                                                                                  1225
                                                                                                                                                                                                                   1217
                                                                                                                                                                                                                                                                           1345
                                                                                                                                                                                                                                                                                             1337
                                                                                                                                                                                                                                                                                                                1405
                                                                                                                                                                                                                                                                                                                                  1397
                                                                                                                                                                                                                                                                                                                                                                                                           1517
                                                                                                                                                                                                                                                                                                                                                                                                                                               1577
                                                985
                                                                  977
                                                                                                                         1105
                                                                                                                                           1097
                                                                                                                                                                                1157
                                                                                                                                                                                                                                       1285
                                                                                                                                                                                                                                                       1277
                                                                                                                                                                                                                                                                                                                                                     1465
                                                                                                                                                                                                                                                                                                                                                                       1457
                                                                                                                                                                                                                                                                                                                                                                                          1525
                                                                                                                                                                                                                                                                                                                                                                                                                              1585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1885
            925
                                                                                                                                                              1165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1936
            8 6
                                         장염
                                                                              $ B $ B $ B $
                                                                                                                                                                                                             8 8 8 8
                                                                                                                                                                                                                                                                                        8 S
                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                   유
장
임
                                                                                                                                                                                                                                                                                                                                                                                                                       8 & 8 &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8 B 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6. B 6 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                      144
                                                                                                                                                                                        137
                                                                                                                                                                                                          204
                                                                                                                                                                                                                             196
                                                                                                                                                                                                                                               264
                                                                                                                                                                                                                                                                256
                                                                                                                                                                                                                                                                                     324
                                                                                                                                                                                                                                                                                                      316
                                                                                                                                                                                                                                                                                                                         384
                                                                                                                                                                                                                                                                                                                                          376
                                                                                                                                                                                                                                                                                                                                                              444
                                                                                                                                                                                                                                                                                                                                                                                436
                                                                                                                                                                                                                                                                                                                                                                                                  504
                                                                                                                                                                                                                                                                                                                                                                                                                   496
                                                                                                                                                                                                                                                                                                                                                                                                                                       564
                                                                                                                                                                                                                                                                                                                                                                                                                                                        556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    916
                                                                                                                                 84
                                                                                                                                              77
disorders affecting pain generation mechanisms (e.g. pain related to irritable bowel syndrome, or chest pain), movement disorders (e.g. Parkinson's disease), eating disorders (e.g. insulin hypersecretion obesity), heart muscle related disorders (e.g. bradycardia, tachycardia, arrhythmia, flutter or fibrillation), or gland related disorder (e.g. xerostomia or diabetes mellitus). The present sequence encodes human mACHR-6
                                                                                                                                                                               CACTGGGCTCGGATCCGGCCCCCCTCGGCACCGCCTGCTTGGCCCCGGCCCCG
                                                                                                                                                                                                                   GCTGGGCAACGCGCTCGTCATGCTCGCCTTCGTGGCCCGACTCGAGCCTCCGCACACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTGGCTGGTAGTGGACTACCTGCTGTGCACCTCCTCTGCCTTCAACATCGTGCTCATCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cecaccecaccecrcaeecrccecrccrcrcrccecrecaecaececcecreceecc
                                                                                                                                                                     GCCCCGCGGACCATGCGCTGGGCGCCCCCAGGGGAAACCCGAACCCGGCCAAGGGCCCCGCA
                                                                                                                                                                                                                                                                                                                                                                       CTCGGCAGCCTGGACCGCGTGCTGGCGCGCGCTCATGGTGTTCATCGTGGCCACGGT
                                                                                                                                                                                                                                                                                                                                                                                                 GCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTGGCCGACTCGAGCCTCCGCACCCAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                       CAACTICITICCTGCTCAACCTCGCCATCTCCGACTTCCTCGTCGGCGCCCTTCTGCATCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAACTTCTTCCTGCTCAACCTCGCCATCTCGGACTTCCTCGTCGCGCGCTTCTGCATCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACTGTATGTACCCTACGTGCTGACAGGCCGCTGGACCTTCGGCCGGGGCCTTCGCAAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTGGCTGGTAGTGGACTACCTGTGCACCTCCTCTGCCTTCAACATGGTGGTCATCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCGCCCGCCAGTGCCGAAGATGCTGCTGCTGGGTGTGGGCTGCTGGCTTCCTGCTGTACGGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCGCCGCCCAGTCCCGCAAGATGCTGCTGCTGCTGCTGCCTTCCTGCTGTACGGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGCCATCCTGAGCTGGGAGTACCTGTCCGGGGCCAGCTCCATCCCCGAGGGCCACTGCTA
                                                                                                                                                                                                                                              CTCGGCAGCCTGGACCGCGGGGGCGCCTCATGGCGCTCATCGTGGCCACGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACTGTATGTACCTACGTGCTGACAGGCCGCTGGACCTTCGGCCGGGGCCTCTGCAAGCT
                                                                                                                 Gaps
                                                                                                              ..
                                                                                             Length 2689
                                                                            0 Other;
                                                                                                               Indels
                                                                            ä
                                                                                             .;
8
                                                                                                               3;
                                                                           T; 0
                                                                                             DB
                                                                                           Score 2635.2;
Pred. No. 0;
0; Mismatches
                                                                           500
                                                                           ö
                                                                           908
                                                                           ن
                                                                           A; 990
                                                                                            Query Match
Best Local Similarity 99.8%;
Matches 2659; Conservative
                                                                           BP; 393
                                                                           2689
                                                                                                                                                                                                                     138
                                                                                                                                                                                                                                                                                                                                         317
                                                                            Sequence
                                                                                                                                 25
                                                                                                                                                   18
                                                                                                                                                                                      78
                                                                                                                                                                                                          145
                                                                                                                                                                                                                                                                197
                                                                                                                                                                                                                                                                                                                                                                                                  445
                                                                                                                                                                                                                                                                                                                                                                                                                                       505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   685
                                                                                                                                                                     82
                                                                                                                                                                                                                                              205
                                                                                                                                                                                                                                                                                     265
                                                                                                                                                                                                                                                                                                     257
                                                                                                                                                                                                                                                                                                                        325
                                                                                                                                                                                                                                                                                                                                                             385
                                                                                                                                                                                                                                                                                                                                                                              377
                                                                                                                                                                                                                                                                                                                                                                                                                   437
                                                                                                                                                                                                                                                                                                                                                                                                                                                       497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            805
888888888888
                                                                                                                                 ઠે
                                                                                                                                              B & B
                                                                                                                                                                                                    중
음
                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                               유
영
                                                                                                                                                                                                                                                                                                                  <u>ک</u> ۾
                                                                                                                                                                                                                                                                                                                                                       6 6 6 6 6 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
8
8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8 & 8 &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8 6 8 6
                                                                                                                                                                                                                                             8
```

```
(HYSE-) HYSEQ INC
                                                                                                P-PSDB; ABG12680
                                                                                                                                                                                            biodiversity.
                                          Drmanac RT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ٦
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                  2115
                                                                                                                                                        2184
                                                                                                                                                                                            2175
                                                                                                                                                                                                                                   2244
                                                                                                                                                                                                                                                                                                                                                   2295
                                                                                                                                                                                                                                                                                                                                                                                                                            2355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2535
                                                                            2124
                                                                                                                                                                                                                                                                                                                                                                                       2364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2655
                                                                                                                                                                          AAGGCTTCCGGCTGAGCTGTGCCTGCTTCTGCCCCACCCCCGCTCTGGGCTCACACCA
                        GCAGTTTGCCTCTGCACGTGCACACCCACCACCCCTGCACACCCTGCACACCGTCC
                                                                                                                                                                                                                                                                       GCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTTCCATTCTGGGTGTTTTTCAGAAGATGA
                                                                                                                                                                                                                                                                                                             AGAAGAAAACATGTCTGTGAACTTGATGTTCGTGGGATGTTTAATCAAGAGAGACAAAAT
                                                                                                                                                                                                                                                                                                                                                 AGAAGAAACATGTCTGTGAACTTGATGTTCCTGGGATGTTTAATCAAGAGAGACAAAAT
                                                                                                                                                                                                                                                                                                                                                                                                            AAGGCTTCCGGCTGAGCTGTGCCAGCTGCTTCTGCCCACCCCGCCTCTGGGCTCACACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCCTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTTGCTCACCCAGGACCTCTGGGGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCCCTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTTGCTCACCCCAGGACCTCTGGGGGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGAGGTGCCCGGGCAGGGGCCGCTTCGCCATGTGCACCCGTGCCACGCGCGCTCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2536 GGAGGTGCCCGGGCAGGGGCCGCTTCGCCATGTGCTGTGCACCCGTGCCACGCGCTCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2596 ATGCTCCTCTGCCTGTGCCCGCTGCGCTGCCAAACCGTGAGGGTCACAAAAGTGT
GCAGTITIGCCTCTGCACGTGCACACACCTGCACACCCCTGCACACACCTGCACACCCGTCC
                                                                            CTCTCCCCGGACAAGCCCAGGACACTGCCTTTGCTGCCTTCTGTCTTTGCATAAGCCTC
                                                                                                              2056 crerecessas de casas de contractes en contractes de c
                                                                                                                                                      AGGCCTGGCCCTTTCACCCCTCTTCCCAACTCTCTCTCCCCCAAAAGTGTCAAGG
                                                                                                                                                                                                                                                                                                                                                                                       TGCTGAGGAGCTCAGGGCTGGATTGGCAGGTGTGGGGCTCCCACGCCCTCCTCCGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2476 GTTGGGAGGAGGGGCCCGGCTGGGCCCGAGGGTCCCAAGGCGTGCAGGGGGCGGTCCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; chromosome mapping; gene mapping; gene therapy; forensic; food supplement; medical imaging; diagnostic; genetic disorder; ss.
                                                                                                                                                                                                                                 GCCCTAGGAACCTCGAGCTGTTCTCTGCTTTTCCATTCTGGGTG1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DNA encoding novel human diagnostic protein #12671.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2656 ATTTTTTAAAAAAAAAAAAAAA 2679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2665 ATTTTTTAAAAAAAAAAAAAA 2688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAS76867 standard; cDNA; 2576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30-MAR-2001; 2001WO-US008631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              31-MAR-2000; 2000US-00540217.
23-AUG-2000; 2000US-00649167.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO200175067-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       13-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      11-OCT-2001
                                    1996
                                                                            2065
                                                                                                                                                      2125
                                                                                                                                                                                                                                 2185
                                                                                                                                                                                                                                                                     2176
                                                                                                                                                                                                                                                                                                           2245
                                                                                                                                                                                                                                                                                                                                                 2236
                                                                                                                                                                                                                                                                                                                                                                                       2305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAS76867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAS76867
                            셤
                                                                        ò
                                                                                                        셤
                                                                                                                                                    ò
                                                                                                                                                                                g
                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
```

```
The invention relates to isolated polynucleotide (I) and polypeptide (II) sequences. (I) is useful as hybridisation probes, polymerase Chain reaction (PCR) primers, oligomers, and for chromosome and gene mapping, and in recombinant production of (II). The polynucleotides are also used in diagnostics as expressed sequence tags for identifying expressed consists of the constant of 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 CCGCCTGCTCTGGCCCCCGGCCCCGGCGCCCGCGACCATGCGCTGGGCCCCCCCAGGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241. CCCAGCTCTCGGCCGGCCCCTGCCCCGCGTCCCGGAGCCGCGTGAGCTGCGGGGCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421 GGCGCTGCTCATCGTGGCCACGTGCTGGGCACGCGCTGGTCATGCTCGCCCTTCGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCTGCAGCAGCCGCCTGCCGGCCCCCACTGGGCTCGGATCCGGCCCCCGGCCCCCTCGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181 Accesaccescerasescentes and an access acces acces and acces acces acces and acces acces acces acces and acces 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCCAGCTCTCGGCCGGCGCCCTGCCCCGGGTCCCGGAGCCGCGTGAGCCTGCGGGGCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGCGGCGGGCGCGCGCGCTTCTCGGCAGCCTGGACCGCGGGGTGCTGGCCGCGCTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGCGGCGGGCGCGCGCGCGCTTCTCGGCAGCCTGGACCCGCGGTGCTGGCCGCGCGCTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCACGCGTCCGCCGGCTGCACGGTCGCACCGGCAGCGGCTCAGGCTCCGGCTCCTCTCTCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCACGCGCCGCCGGCTGCACGGTCGCACCGGCAGCGGCTCAGGCTCCCCGCTCCTCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gergeageageagececreececacregecreeaareegececececececreeca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCGCCTGCTCTGGCCCCCGGCCCCCGCGCGGACCATGCGCTGGGCGCCCCCAGGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               <u> ACCCGACCCGGCCAAGGGCCCCGCAAAGACGAGGCTCCCGGGGCCGGGGCCCCTCCCGGCCCG</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                         New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 5; Length 2576;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 2576 BP; 364 A; 956 C; 781 G; 475 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  94.8%; Score 2557.6; 99.8%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 1; SEQ ID NO 12671; 103pp; English.
       Tang YT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity 99.8
Matches 2571; Conservative
Liu C,
                                                                                                                                           2001-639362/73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
```

ä

480

유

1560 1620 1620 1681 1740 1741 1801 1801 1920 1920			Qy 2400 CCACCCGGCTCTGGGCTCACCCGGTGGCCAAGCCTGCCCGGCCACTCTGTT 245	RESULT 14 AAS62391 ID AAS62391 standard; CDNA; 2173 BP. XX
481 CGACTCGAGCCTCCGCACCAGAACATTCTTCCTGCTCAACCTCGCCATCTCCGACTT 540 481 CGACTCGAGCCTCCGCACCCAGAACATTCTTCCTGCTCAACCTCGCCATCTCCGACTT 540 481 CGACTCGAGCCTCCCACCACACACTTCTTCTTCTGCTCACCTCGCCATCTCCGACTT 540 541 CCTCGTCGGCCCTTCTCCACTCTATTCTACCCTACCTCGCCGCTCGAC 600 541 CCTCGTCGGCCCTTCTGCATCCTATTGTACTCTCTCTCTC	901 GGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCAT 960	CTGGCAGAAGGGGCACGGGAGGCCATGCCGCTGCACAGGTATGGGGTGAGGCGGC 114 [1321 CAGAGCTTCACCAGGCTTTCGGCTGGTCGCTGGTANGAGATGGTCTTC	1500 TGTGGGCCAACTCGGCTGTCCTGTCCTCTGTGCCACCACACTTCCGCC 1559

```
which encode human secreted proteins. The cDNA sequences have been derived from a variety of human tissues. The invention also provides a method for producing proteins from these polynucleotide sequences. The proteins are useful for identifying compounds that modulate their compounds that modulate expression of the polynucleotide sequences encoding the secreted proteins. The sequences of the invention are useful for treating diseases such as hyperproliferative disorders (e.g. cancer), immune deficiency disorders (e.g. multiple solerosis), blood disorders (SCID)), autoimmune disorders (e.g. multiple solerosis), blood disorders infectious disorders (e.g. hepatitie). The polynucleotide sequences of the invention are also useful in gene therapy. AASG2214-AASG2338 represent the cDNA sequences of the invention that encode for novel human
                                                                                               Human secreted protein; hyperproliferative disorder; autoimmune disorder; immune deficiency disorder; blood disorder; inflammatory disorder; infectious disorder; gene therapy; antimicrobial; hepatotropic; immunosuppressive; antirheumatic; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCGGGCAGTGCGGAAGATGCTGCTGGTGTGGGTGCTGGCCTTCCTGCTGTACGGACCAGC 807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           present invention relates to the isolation of novel cDNA sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCTGGTAGTGGACTACCTGCTGTGCACCTCCTCTGCCTTCAACATCGTGCTCCATCATCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTTCTTCCTGCTCAACCTCGCCATCTCCGACTTCCTCGTCGGCGCCCTTCTGCATCCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTATGTACCCTACGTGCTGACAGGCCGCTGGACCTTCGGCCGGGGCCTCTGCAAGCTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ceaccecrirecreresereaccesesesererearaceseseceaseseseseseseseses
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTATGTACCCTACGTGCTGACAGGCCGCTGGACCTTCGGCCGGGGCCTCTGCAAGCTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCTGGTAGTGGACTACCTGCTGTGCACCTCCTCTGCCTTCAACATCGTGCTCATCAGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTTCTTCCTGCTCAACCTCGCCATCTCCGACTTCCTCGTCGGCGCCCTTCTGCATCCCACT
                                                                                                                                                                                                                                                                                                                                                                                                   Resnick RJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New polynucleotides encoding secreted proteins useful for treating asthma, HIV and Crohn's disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 6; Length 2173;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 2173 BP; 330 A; 772 C; 620 G; 451 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                 Wong GG, Clark HF, Fechtel K, Agostino MJ, Howes SH,
Gulukota K, Graham JR;
                                                                  #178 encoding novel human secreted protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 2149.2; Pred. No. 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 1; Page 168; 391pp; English
                                                                                                                                                                                                                                                                                                                               06-APR-2000; 2000US-0195604P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          79.6%;
                                                                                                                                                                                                                                                                                              29-MAR-2001; 2001WO-US010485.
                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                 (GEMY ) GENETICS INST INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity 99.8
les 2162; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2002-010900/01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       secreted proteins
                                                                                                                                                                                                                          WO200177291-A2
                                                                    cDNA sequence
                                                                                                                                                                                           sapiens
                                14-FEB-2002
                                                                                                                                                                                                                                                            18-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                st Loca
tches
                                                                                                                                                                                           Ношо
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The
ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
```

1140 1260 1167 1347 1407 1467 1527 1020 1587 1080 1647 1707 1200 1767 1827 1261 ccAcescaeccacccarecaresaccccrrrcrreserresccaeaesccccrcacre 1320 GCTGGACTGGAGGCTGGCTGGCCCCCCCCCACATTCTGGCTCCACCGGGGAGGG 1887 1047 1107 1227 .1287 540 840 900 960 900 099 720 780 300 867 927 420 987 480 CTCGAGGGGCACTGAGAGGCCGCGCTCACTCAAGAGGGGCTCCAAGCCGTCGGCGTCCTC GCGGCCAGTGCGGAAGATGCTGCTGTGTGTGTGTGTGCTGCCCTTCCTGCTGTACGGACCAGC CCTCCGGCTGGATGGGGCTCGAGAGGCAGCCGGCCCCCGAGCCCCCTCCCGAGGCCCAGCC GCCGCTGCACACAGGTATGGGGTGGGTGAGGCGGCCGTAGGCGCTGAGGCCGGGGAAGGCGAAC CTGGGCCCCATACACGCTGCTGATGATCATCCGGCCCGCCTGCCATGGCCACGCGTCCC GAGCCTCCCTCAGCCACCTCTCAGCCCAGGTCTCCTGGGCCATCTGGCCCTGCTGCC CTCACCACCCCCACCGCCTGCTGCTGGCTGCTGGCAGAAGGGGCCACGGGGAGGCCAT CTCACCACCCCCACCACCTGGCTGGTTGGCTGCTGGCAGAAGGGGCACGGGGAAGGCCAT CCTCGGGGGTGGCGGTGGGGGGGGCTCCGTGGCTTCACCCCACCTCCAGCTCCGGCAGCTC cresadedecacresadadecedececercacadadedecerceaadeceredecere GTCTCGGGACAGGAAAGTGGCCAAGTCGCTGGCCGTCATCGTGAGCATCTTTGGGCTCTG TGACTACTGGTACGAAACCTCCTTCTGGCTCCTGTGGGCCAACTCGGCTGTCAACCCTGT TGACTACTGGTACGAAACCTCCTTCTGGCTCCTGTGGGCCAACTCGGCTGTCAACCCTGT CCTCTACCCTCTGTGCCACCACCACGCCCTCCGCCCTTCACCAAGCTGCTCTGCCCCCA CCTCTACCTCTGTGCCACACACACCTCCGCCGGGCCTTCACCAAGCTGCTCTGCCCCCA GAGCCTCCCTCAGCCTCTCTCAGCCCAGGTCTCCTGGGCATCTGGCCCTGCTGCC CCCTACCCGGCTCGTTCCCCCCAGGGTGAGCCCCGCCGTGTCTGTGGCCCTCTTTAATG cectracecedericerececeaegereaececececerereresecerererans CCACGCCAGCCACCCTGCCATGGAGGCGCCTTCCTGGGTTGGCCAGAGGGCCCCTCACTG CATCCTGAGCTGGGAGTACCTGTCCGGGGGCGCTCCATCCCCGAGGGCCCACTGCTATGC CATCCTGAGCTGGGAGTACCTGTCCGGGGCAGCTCCATCCCCGAGGGCCACTGCTATGC CGAGTTCTTCTACAACTGGTACTTCCTCATCACGGCTTCCACCCTGGAGTTCTTTACGCC CTTCCTCAGCGTCACCTTCTTTAACCTCAGCATCTACCTGAACATCCAGAGGCGCACCCG CTTCCTCAGCGTCACCTTCTTTAACCTCAGCATCTACCTGAACATCCAGAGGCGCACCCG CCTCCGGCTGGATGGGGCTCGAGAGGCAGCCGGGGCCCCGAGCCCCTCCCGAGGCCCAGCC GGCCTCGCTGGAGAAGCGCATGAAGATGGTGTCCCAGAGCTTCACCCAGCGCTTTCGGCT GGCCTCACTGGAGAGGGCATGAAGATGGTGCCCAGAGCTTCACCCAGGGCTTTTGGGCT GTCTCGGGACAGGAAAGTGGCCAAGTCGCTGGCCGTCATCGTGAGCATCTTTGGGCTCTG CTGGGCCCCATACACGCTGCTGATGATCATCCGGGCCGCCTGCCATGGCCACTGCGTCCC 1201 781 1348 841 901 1588 1081 1648 1141 1708 1768 808 421 1048 541 1108 1168 1228 1288 1408 1468 961 1528 1021 868 361 928 988 481 601 721 301 661 셤 g g g В 셤 요 셤 g g g g 셤 ద ò ò ð ò à 8 8 à ò ઠે 8 셤 δ ò ò ò ò Š ò

е. 9

1828

567

9

```
The invention relates to primers for synthesising full length cDNA clones. 830 cDNA molecules encoding a human protein have been isolated and nucleoride sequences of 5'- and 3'-ends of the cDNA molecules have been determined. Primers for synthesising the full length cDNA are useful for clarifying the function of the protein encoded by the cDNA. The full length clones were obtained by construction of full length enriched cDNA libraries that were synthesised by the oligo-capping method. The primers enable the production of the full length cDNA easily without any special methods. The present sequence is a full length human cDNA of the invention. Note: The sequence data for this specth dinct form part of the printed specification, but was obtained in CD-ROM format directly
                                                                                                                                                                                                                                          their use
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                creererecerecerecerecereraceaeceaecearecreaecreeaeracere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     recegegeagerecarecedagegecacrecrarecegagricireracaacregiae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCCGGGGGCAGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AACCTCAGCATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGGATGGGGCTCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGCCGCTGGACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTAGTGGACTACCTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGCACCTCCTCTGCCTTCAACATCGTGCTCAGCTACGACCGCTTCCTGTCGGTCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGCACCTCCTCTGCCTTCAACATCGTGCCCATCAGCTACGACCGCTTCCTGTCGGTCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTGGTGTGGGGTGCTGGCTTCCTGCTGCTACGGACCAGCCATCCTGAGCTGGGAGTACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          rrccrcarcacecrrccaccrreaagrrcrrraceccrrccrcaecercaccrrcrrr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGAGCGGTCTCATACCGGGCCCAGCAGGGTGACACGCGGCGGGGGAGTGCGGAAGATGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                         Ë
                                                                                                                                                            Kawai Y;
T, Koga I
                                                                                                                                                                                                                                          for synthesizing full length cDNA clones and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 1902;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241;
                                                                                                                                                                                                                                                                                  Claim 8; SEQ ID NO 2796; 1380pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 1902 BP; 292 A; 688 C; 522 G; 400 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3; Indels
                                                                                                                                                            hii S,
Otsuki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 4;
                                                                                                                                                                         ς,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 60.6%; Score 1636.2; DB Best Local Similarity 88.6%; Pred. No. 2e-253; Matches 1899; Conservative 0; Mismatches 3
                                                                                                                                                           Hayashi K,
K, Kojima
                                                                                                                                                            Ota T, Nishikawa T, Isogai T,
Wakamatsu A, Sugiyama T, Nagai
                                                                            08-JUL-1999; 99JP-00194486.
11-JAN-2000; 2000JP-00118774.
02-MAY-2000; 2000JP-00183765.
                                                   07-JUL-2000; 2000EP-00114089
                                                                                                                                                                                                                                                        in genetic manipulation.
                                                                                                                                   (HELI-) HELIX RES INST
                                                                                                                                                                                                  WPI; 2001-524255/58.
P-PSDB; AAM93299.
                                                                                                                                                                                                                                          830 Primers useful
 EP1130094-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            830
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                             from EPO
 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   硆
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                1619
                                                                                                                                                                                                                                         2187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2607
                                                                                                        1499
                                                                                                                                                             1559
                                                                                                                                                                                     2127
                                                                                                                                                                                                                                                                     1679
                                                                                                                                                                                                                                                                                                2247
                                                                                                                                                                                                                                                                                                                                                     2307
                                                                                                                                                                                                                                                                                                                                                                   2367
                                                                                                                                                                                                                                                                                                                                                                                                                                   1859
                                                                                                                                                                                                                                                                                                                                                                                                                                                             2427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2159
GCTGGACTGGAGGCTGGGTGGCCGGCCCTGCCCCCACATTCTGGCTCCACC-GGGAGGG 1379
                                                                                                                                                                                                                                                                                                                         CTAGGAACCTCGAAGCTGTTCTCTGCTTTTCCATTCTGGGTGTTTTCAGAAAGATGAAGA 1739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTCCTCTGCCTGTGCCCGCTGCCCTGCAAACCGTGAGGTCACAATAAAGTGTATT 2667
                                       ACAGTCTGGAGGTCCCAGACATGCTGCCCCCCCCTGCTGGTGCCCCCCTTCGCAGTTA
                                                                                          CTGGTTGGTGTTCTTCCCAAAGCAAGCACCTGGGTGTGCTCCCAGGCTTCCTGCCCTAGCA
                                                                                                                                                GTTTGCCTCTGCACGTGCACACACCTGCACACCCCTGCACACCCTGCACACCGTCCCTC
                                                                                                                                                                                                                                                          CCTGGCCCTTTCACCCCTCTTCCCACCACCACTCTCTGCCCCCAAAAAGTGTCAAAAGGGGCC
                                                                                                                                                                                                                                                                                             CTAGGAACCTCGAAGCTGTTCTCTGCTTTTCCATTCTGGGTGTTTTCAGAAGATGAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTTGCTCACCCAGGACCTCTGGGGGGTTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGGAGGGGCCCGGCTGGGCCCCGAGGTCCCAAGGCGTGCAGGGGGCGGTCCAGAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTCCTCTGCCCTGTGCCCGCTGCGCTGCCCTGCAACGTCAAAAAAGTGTATT
                                                                                                                                   GTTTGCCTCTGCACGTGCACACACCTGCACCCCTGCACACACCTGCACACCGTCCCTC
                                                                                                                                                                                       receesacaaseceassacaersecririsecricererererransecricass
                                                                                                                                                                                                     TCCCCGGACAAGCCCAGGACACTGCCTTTGCTTCTGTCTTTGCATAAGCCTCAGG
                                                                                                                                                                                                                                          CCTGGCCCTTTCACCCCTCTTCCCACCAACTCTCTGCCCCCAAAAGTGTCAAGGGGCC
                                                                                                                                                                                                                                                                                                                                                   AGAAAACATGTCTGTGAACTTGATGTTCGTGGGATGTTTAATCAAGAGAGACAAAATTGC
                                                                                                                                                                                                                                                                                                                                                                                                        readdadcricaddecriddarradcaddreraddecriccacdccriccriccriccriaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGTGCCCGGGCCAGGGGCCCCTTCGCCATGTGCTGTGCACCCCGTGCCACGCGCTCTGCATG
                                                                              CTGGTTGGTGTTCTTCCCAAAGCAAGCACCTGGGTGTGCTCCAGGCTTCCTGCCCTAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCTTCCGGCTGAGCTGTGCCAGCTGCTTCTGCCCACCCCGCCTCTGGGCTCACACCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTTGCTCACCCCAGGACCTCTGGGGGTTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human; full length cDNA; cDNA synthesis; oligo-capping; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             full-length cDNA, SEQ ID NO: 2796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAK94219 standard; cDNA; 1902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTTTA 2673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   06-NOV-2001
                                                                                                       1440
                                                                                                                                                           1500
                                                                                                                                                                                     2068
                                                                                                                                                                                                                1560
                                                                                                                                                                                                                                          2128
                                                                                                                                                                                                                                                                    1620
                                                                                                                                                                                                                                                                                                                         1680
                                                                                                                                                                                                                                                                                                                                                                              1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2100
 1321
                                                   1380
                                                                              1948
                                                                                                                                   2008
                                                                                                                                                                                                                                                                                              2188
                                                                                                                                                                                                                                                                                                                                                   2248
                                                                                                                                                                                                                                                                                                                                                                                                        2308
                                                                                                                                                                                                                                                                                                                                                                                                                                   1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                             2368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2160
                          1888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                             ď
                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                      ઠે
                                                                                                 a
                                                                                                                                                      셤
                                                                                                                                                                             ò
                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                    요
                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                     8
                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ठे
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
```

9

1009

CB725716 AMGNNUC:U
ALG48045 ALB48045
AM654609 104607 MA
AA899887 UI-R-ED-C
CB477482 684956 MA
CK769909 958021 MA
AL24699 958021 MA
AL245344 UI-M-BH1BE663702 QY3-BT029
R87218 Y045510.51
AW049250 UI-M-BH1CB705571 AMGNNUC:N
AA943666 EST199165
CO875674 BOVGEN_03
BE5922940 BE592940
H28163 Y078412.61
CC0875634 BOVGEN_03
CR057310 FOTWART
SEMBOS220 AGENCOURT

Perfect score:

Sequence:

nucleic

Run on:

Scoring table:

Searched:

Minimum DB Maximum DB

Database

Result

```
Homo sapiens
Enkaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia: Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 813)

2 (bases 1 to 813)

2 Ebert, J., Heil, O., Hennig, S., Neubert, P., Partsch, E., Peters, M., Radelof, U., Schneider, D. and Korn, B.

Radelof, U., Schneider, D. and Korn, B.

Human Unigeneset - RZPD3

Contact: Ina Rolfs

RZPD bettsches Ressourcenzentrum fuer Genomforschung GmbH

RZPD; IMAG998G1934.

RZPD; IMAG998G1934; IMAGE:180906"

//db_xref='traxon:966"

//db_xref='traxon:966"

//db_xref='traxon:966"

//dw. grane = "MAG998G1934"

//db_xref='traxon:966"

//dw. grane = "Mag99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BXO89742
BXO89742 Soares adult brain N2b4HB55Y Homo sapiens cDNA clone IMAGp998G19334 ; IMAGE:180906, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ALIGNMENTS
                                                                 CB437482
CK769909
CNS039RV
                                                                                                                                                                        AW049250
CB705071
                                                                                                                                                                                                                           CO875612
BB592940
                                                                                                                   BE647364
BE063702
                                                                                                                                                                                                         AA943666
                                                                                                                                                                                                                                                                                                                CR021310
                                                                                                                                                                                                                                                                                                                                  BM805220
                                                                                                                                                                                                                                                                                                                                                  AY404934
                                                                                                                                                        R87218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BX089742.1 GI:27821886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens (human)
 Homo sapiens
   240.6
224.2
214.4
212.2
205.6
202.8
197.8
199.8
189.8
                                                                                                                                                                                        184
183.6
                                                                                                                                                                                                                             180.8
1179.4
179.2
179.2
179.2
176
176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 1
BX089742
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
 υυυ
                                                                                                                                                                                                              υυ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BQ068856 AGENCOURT
BM548665 AGENCOURT
CF147822 AGENCOURT
BT34453 603354331
CB1556920 AMGNNUC: U
CB154982 K-EST0213
CN423054 170004245
CN423054 170004245
CO403631 AGENCOURT
CB611519 AMGNNUC: N
BY727560 BF51112 602072279
BF551112 602072279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AW669811 113386 MA
H30846 yo78d12.r1
CB758850 AMGNNUC:S
BQ550659 AGENCOURT
CC580463 CH240 375
CD326085 AGENCOURT
CC580463 CH240 375
CD326085 AGENCOURT
CC0972448 BovGen 00
AW654493 103977 MA
                                                                                                                   2, 2005, 05:10:00 ; Search time 8997.2 Seconds (without alignments) 11546.944 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BX089742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                             3X089742
                                                                                                                                                                                                                                                                                                                                                  68479088
                  GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                34239544 segs, 19032134700 residues
                                                                                                                                                                                                                                                                                                                                               Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        summaries
                                                                                   nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BX089742
BM548665
CC1147822
CC1147822
CB55424
CB55424
CB55423
CB15482
CC15483
CC1353
CC1353
CC1353
CC1353
CC1353
CC1353
CC1353
CC1354
C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R87217
CC580463
CD326085
CO872448
AW654493
                                                                                                                                                                                                                                                           IDENTITY NUC Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                    Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 su
                                                                                                                                                                                                                                                                                                                                                                                 seq length: 0
seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query
Match Length DB
                                                                                                                                                                                        US-10-727-021-5
2699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9b est1: *
9b_est2: *
9b_est3: *
9b_est3: *
9b_est6: *
9b_est6: *
9b_est6: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    890
672
533
716
910
842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          547
653
409
499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EST:
                                                                                                                       June
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               767.6
743.6
706.2
680.8
549.6
543
522
516
476.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        455
429.6
389.6
389.4
386.3
371.2
369.6
358.8
358.8
340.8
336.6
278.8
278.8
278.8
278.8
278.8
```

us-10-727-021-5.rst

```
CCACCACAGCTTCCGCCGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAAATCCA
                                                                                                                                                                        BQ068856.1 GI:19897902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 27.6%;
Best Local Similarity 93.3%;
Matches 809; Conservative (
                                                                                                                                                                                                         Homo sapiens (human)
                                                                                                                                        5', mRNA Sequence.
BO068856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1. .946
                                                                                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                        SOURCE
ORGANISM
                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                        AUTHORS
TITLE
JOURNAL
COMMENT
                                                                      RESULT 2
BQ068856
LOCUS
                                                                                                                                                        ACCESSION
                                                                                                                                                                      VERSION
KEYWORDS
                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORIGIN
                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           임
                                                                normalization to a cot = 53. Library constructed by Bento Soares and M.Fatima Bonaldo. The adult brain RNA was provided by Dr. Donald. Tissue was acquired 17-18 hours after death which occurred in consequence of a triptured aortic aneurysm. RNA was prepared from a pool of tissues representing the following areas of the brain: frontal, parietal, temporal and occipital cortex from the left and right hemispheres, subcortical white matter, basal ganglia, thalamus, cerebellum, midbrain, pons and medulla."
                                                                                                                                                                                                                                                                                                                                                                                                              1649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCCTCCCTCAGCCACGCCTCTCTCAGCCCAGGTCTCCTGGGCATCTGGCCCTGCTGCCCCC 1709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2250 AAAACATGTCTGTGAACTTGATGTTCGTGGGATGTTTAATCAAGAGAGACAAAATTGCTG 2309
double-stranded cDNA was size selected, ligated to Eco RI adapters (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of a modified pT7T3 vector (Pharmacia). Library went through one round of
                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301 ridakcridakaderraderadecedecerececedearricridaerecenee-adakees 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             720 AAAACATGTCTGTGAACTTGATGNTCCTGGGATGGTTAATCAAGAGAGAGAAATTGCTG 779
                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241 ACGGCAGCCACCCTGCCATGGAGGCGCCTTCCTGGGTTGGCCAGAGGGCCCCTCACTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             660 AGGAACCTCGAAGCTGTTCTCTGCTTTTCCATTCTGGGTGGTTTCAGAAGAAGAAGAAGAAG
                                                                                                                                                                                                                                                                                                                                                                CTACCCTCTGTGCCACCACACACTTCCGCCGGGCCTTCACCAAATCTGCTCTGCCCCCAGA
                                                                                                                                                                                                                                                                                                                                                                                                              1710 CTACCCGGCTCGTTCCCCCAGGGGTGAGCCCCGCGTGTCTGTGGCCCTCTTAATGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACGGCAGCCACCCTGCCATGGAGGCGCCTTCCTGGGTTGGCCAGAGGGCCCCTCACTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         420 GGTTGGTGTTCTTCCCAAAGCAAGCACCTGGGTGTGCTCCAGGCTTCCTGCCGTAGCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2070 CCCGGACAAGCCCAGGACACTGCCTTTTGCTGCCTTCTGTCTTTGCATAAGCCTCAGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2190 AGGAACCTCGAAGCTGTTCTCCTTTTCCATTCTGGGTGTTTTCAGAAAGATGAAGAAG
                                                                                                                                                                                                                                                                                                                                           CTACCCTCTGTGCCACCACAGCTTCCGCCGGGCCTTCACCAAG-CTGCTCTGCCCCCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121 GCCTCCCTCAGCCAGGCCTCTCTCAGCCCAGGTCTCCTGGGCATCTGGCCCTGCTGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181 CTACCCGGCTCGTTCCCCCAGGGGTGAGCCCCGCGTGTCTGTGGCCCTCTTAATGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1890 AGTCTGGAGGTCCCAGACATGCTGCCCACCCCTGCTGCTGCTCCCTTCGCAGTTACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGTTGGTGTTCTTCCCAAAGCAAGCACCTGGGTGTGTCCTCCAGGCTTCCTGCCCTAGCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2010 TTGCCTCTGCACGTGCACACACCTGCACCCCCTGCACACCTGCACACCCGTCCCTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2130 TGGCCCTTTCACCCCTCTTCCCACCAACTCTCTGTGCCCCCAAAAGTGTCAAGGGGCCCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 600 TGGCCCTTTCACCCCTCTTCCCACAACTCTCTGTGCCCCCAAAAGTGNCAAGGGGCCCT
                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                             3;
                                                                                                                                                                                                                                                                         Score 767.6; DB 5; Length 813;
Pred. No. 3.3e-143;
0; Mismatches 9; Indels 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2310 AGGAGCTCAGGGCTGGATTGGCAGGTGTGGGCTCC 2344
                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 98.5%;
Matches 803; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1830
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1950
                                                                                                                                                                                                                                                                                                                                           1531
                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                         ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QQ
                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
```

```
/mol type="mRNA"
//db_Xref="raxon:9606"
/clone='IMAGE:5802702"
/tissue_type="neutoblastoma, cell line"
/tlab_host="nHubB (phage-resistant)"
/clone_lib="NHH_MGC_47"
/note="Organ: brain; Vector: poTB7; Site 1: Xho1; Site 2:
BCoR1; CDN made by oligo-dT priming. Directionally
cloned into EcoR1/Xho1 sites using the following 5:
adaptor: GGCACGAG(G). Size-selected >500bp for average
insert size 1.8kb. Library constructed by Ling Hong in
the laboratory of Gerald M. Rubin (University of
Callifornia, Berkeley) using ZAP-CDNA synthesis kit
(Stratagene) and Superscript II RT (Life Technologies).
Note: this is a NIH_MGC Library."
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Day Sapissis Butheria; Craniata; Vertebrata; Euteleostomi; Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.

E. 1. (Bases I to 946)

I. Unpublished (1999)

Contact: Robert Strausberg, Ph.D.

Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC

CDNA Library Preparation: Rubin Laboratory

CDNA Library Preparation: Rubin Laboratory

CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

DNA Sequencing by: Agencourt Bioscience Corporation

Clone distribution: MGC Clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:

High quality sequence stop: 678.

Location/Qualifiers

Location/Qualifiers
                                                                                                                                                                                                       BQ068856 946 bp mRNA linear EST 02-APR-2002
AGENCOURT_6740127 NIH_MGC_47 Homo sapiens cDNA clone IMAGE:5802702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1483 AACCTCCTTCTGGCTCCTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTGTG 1542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCTGCTGATGATCATCCGGGCCGCCTGCCATGCCCACTGCGTACGATACTAGGTACGA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 AGTGGCCAAGTCGCTGGCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCCATACAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AACCTCCTTCTGGGCTCCTGTGGGCCAACTCGGCTGTCAACCCTGTGCTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 GCGCATGAAGATGGTGTCCCCAGAGCTTCACCCCAGCGCTTTCGGCTGTCTCGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1363 AGTGGCCAAGTCGCTGGCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCCATACAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCTGCTGATGATCATCCGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCGCATGAAGATGGTGTCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 946;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 743.6; DB 5;
Pred. No. 2.2e-138;
0; Mismatches 55;
                                     813
780 AGGAGCTCA-GGCTGGATTGNCAGGNGNGGGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Homo sapiens"
```

1602

ω .

ന

```
Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                313
                                                                                                                                                                                                                                                                                                                                         1367
                                                                                                                                                                                                                                                                                                                                                                                                                 193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                433
                                                                                                                                                                                                                                                                    13
                                                                                                                                                                                                                                                                                                                 73
                                                                                                                                                                                                                                                                                                                                                                                         1427
                                                                                                                                                                                                                                                                                                                                                                                                                                         1487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1965
                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                 133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             613
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            672
                                                                                                                                                                                                          Best Local
                                                                                                                                                                                                                    Matches
                                                                                                                                                                     ORIGIN
                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                     1722
                                                                                                                     1782
                                                                                                                                                                     1842
                                                                                                                                                                                                                    1902
                                                                                                                                                                                                                                                                    1962
                                                                                                                                                                                                                                                                                                                                                                 2080
                                                                                                                                                                                                                                                                                                                                                                                                                 2140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGENCOURT 6573270 NIH_MGC_124 Homo sapiens cDNA clone IMAGE:5732210 BM548665
                                                                                                                                                                                                                                                                                                                 2021
                                                                                                                                                                                                                                                                                                                                         719
                                                                                              420
                                                                                                                                             480
                                                                                                                                                                                             540
                                                                                                                                                                                                                                          599
                                                                                                                                                                                                                                                                                                                                                                                         779
                                                                                                                                                                                                                                                                                                                                                                                                                                         839
CCACCACAGCTTCCGCCGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.

    (bases 1 to 1103)

                                                                                                                                                                                                                                                                                                                                                                               2081 CCAGGACACTGCCTTTGCTGCCTTCTGTCTTGCATAAGCCTCAGGCCTGGCCCTTTCA
                                    1663 ACGCCTCTCTCAGCCCAGGTCTCCTGGGCATCTGGCCCTGCTGCCCCTACCCGGGTCGT
                                                                                                                                                                    600 CAGACATGCTGCCCCCCTGCTGGTGCCCCTTCGCAGTTACTGGTTGTTTT
                                                                                                                                                                                                                                                                                                                 CCCAAAGCAAGCA-CCTGGGTGTGCTCCAGGCTTCCTGCCCTAGCAGTTTGCCTCTGCAC
                                                                                                                                                                                                                                                                                                                                                                 2022 GTGCACACCCTGCACACCCCTGCACACCTGCAC-ACCGTCCCTCTCCCCGGACAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                        780 CCCCAGGACACTGCCCTTTGCTGCCCTTTTGCTTAAACCCTCAAAGCCCTGG
                                                                                    361 ACGCCTCTCTCACGCCCAGGTCTCCTGGGCCATCTGGCCCTGCTGCCCCCTACCCGGCTCGT
                                                                                                                     TCCCCCAGGGGTGAGCCCCCCCCGCGTGTCTGTGGCCCTCTTTAATGCCACGGCAGCCACCC
                                                                                                                                   TCCCCCAGGGGTGAGCCCCGCCGTGTCTGTGGCCTCTTTAATGCCACGGCACCC
                                                                                                                                                                                                                    GGGTGGCCGGCCCTGCCCCCCCACATTCTGGCTCCACCGGGGAGGACAGTCTGGAGGTCC
                                                                                                                                                                                                                                          541 GGGTGGCCGGCCCTGCCCCCCACATTCTGGCTCCACC-GGGAGGGACAGTCTGGAGGTCC
                                                                                                                                                                                                                                                                  660 CCCAAAGCAAGCACCCTNGGTGTGCTCCAGGCTTCCTGCCCTAGCAGTTTGCCTCTGCAC
                                                                                                                                                                                            NIH-WGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Email: cgabbs-remail.nih.gov
Tissue Procurement: Invitrogen
Tissue Procurement: Invitrogen
CDNA Library Preparation: Lin. M. G. E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information cond through the I.M. G. E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAMI2733 row. p column: 03
High quality sequence stop: 654.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2141 CCCCTCTTCCCACCAACTCTCTGCC 2167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         840 CCCCTTTTCACCCCCTCCTTCCCACCC 866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1. .1103
/organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BM548665.1 GI:18783421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                            421
                                                                                                                     1723
                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                  1903
                                                                                                                                                                                                                                                                                                                 1963
                                                                                                                                                                    1783
                                                                                                                                                                                                                    1843
                        1603
                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 3
BM548665
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PEATURES
                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                         g
                    ò
                                       셤
                                                             ઠ
                                                                                                                                     g
                                                                                                                                                             ઠે
                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                    g
                                                                                        셤
                                                                                                                    8
                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
```

```
/mol type="mRNA"
/db_xref="taxon:9606"
/clone="IMAGE:5732210"
/tissue_type="hippocampus"
/tissue_type="hippocampus"
/lab host="DH10B"
/clone lib="NIH MGC_124"
/clone lib="NIH MGC_124"
/note="Organ: brain; Vector: pCMV-SPORT6; Site 1: ECCRV (destroyed); Site 2: Not1; RNA source male hippocampus, age 27. Library is oligo-dT primed and directionally cloned (ECCRV site is destroyed upon cloning). Average insert size 1.4 kb, insert size range 0.9-4 kb. Library is normalized and enriched for fill-length clones and was constructed by C. Gruber (Invitrogen). Research Genetics tracking code 012."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1906
                                                                                                                                                                                                                                                         18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1307 ATGAAGATGGTGTCCCAGAGCTTCACCCAGGGCTTTCGGCTGTCTCGGGGACAGGAAGTG 1366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCCAAGTCGCTGGCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTG 1426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCCTTCTGGCTCCTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCAC 1546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2019
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CATGCTGCCCACCCCCTGCTGGTGCCCACCCTTCGCAGTTA--CTGGTTGGTGTTCTTCC 1964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCCAAGTCGCTGGCGTCATCGTGAGCATCTTTGGGCTTCTGCTGGGCCCCCATACACGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTGATGATCATCCGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     recrireregerecreregeceaacregerereaecergrecrererecererege
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      creargarcarccegecececrecearesecaciecerecereacracreseraceaaace
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATGAAGATGGTGTCCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACAGCTTCCGCCGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTCTCTCAGCCCCAGGTCTCCTGGGCATCTGGCTGCTGCTGCTACCCGGCTCGTTCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGCCGGCCCTGCCCCCCCCACATTCTCGCTCCCACC-GGGAGGGACAGTCTGGAGGGCCCCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCGCGCTCACTCAAGAGGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCACTGGAGAAGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTCTCTCAGCCCAGGTCTCCTGGGCATCTGGCCCTGCTGCCCCCTACCCGGCTCGTTCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCAGGGGTGAGCCCCGCCGTGTCTGTGGCCCTCTCTTAATGCCACGGCAGCCACCCTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             canecrecedecederecedadecedecentecedenaacrecentecinente
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAAAGCAAGCACCT-GGGTGTGCTCCAGGCTT---CCTGCCCTAGCAGTTTG-CCTCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cadadecadecregedererecrecadecerrecerececeradaderrrecerene
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ..
6
                                                                                                                                                                                                                                                                                                                                                                                                  Length 1103;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                  DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  38;
                                                                                                                                                                                                                                                                                                                                                                                                Score 706.2; DB 4;
Pred. No. 6.9e-131;
0; Mismatches 38;
                                                                                                                                                                                                                                                                                                                                                                                                  26.2%;
94.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  787; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
```

2020 ACGIGCACACACCIGCACACCCCIGCACACACACACACCGICCCICICCCC 2072

```
ISM MUS MUSCALLUS

MUSCALLUS

ELVATYOTA; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

ELVATYOTA; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

ELVATYOTA; Metazoa; Chordata; Sciurognathi; Muridae; Musinae; Mus.

ELVATYOTA; Moconci.nih.gov/.

National Institutes of Health, Mammalian Gene Collection (MGC)

National Institutes of Health, Mammalian Gene Collection (MGC)

AL Unpublished (1999)

Contact: Robert Strausberg, Ph.D.

Email: cgapbs-romail.nih.gov

Tissue Procurement: The Cepko Laboratory

CDNA Library Preparation: Life Technologies, Inc.

CDNA Library Preparation: Life Technologies, Inc.

CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

DNA Sequencing by: Incyte Genomics, Inc.

Clone distribution: MGC Clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:

Location/Qualifiers

Durce

Location/Qualifiers

Durce

Location/Qualifiers

Durce

Location/Qualifiers

Durce

Location/Qualifiers

Location/Qualifiers

Durce

Location/Qualifiers
                                                                                                   651
                                                                                                                       310 COGCTGGACCTTCGGCCGGGGCCTCTGCAAGCTGGGTAGTGGACTACCTGCTGTG 369
                                                                                                                                                                                711
                                                                                                                                                                                                                     429
                                                                                                                                                                                                                                                           771
                                                                                                                                                                                                                                                                                                  489
                                                                                                                                                                                                                                                                                                                                      831
                                                                                                                                                                                                                                                                                                                                                                           549
                                                                                                                                                                                                                                                                                                                                                                                                                 891
                                                                                                                                                                                                                                                                                                                                                                                                                                                        609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BI731453 890 bp mRNA linear EST 20-SEP-20 603354331F1 NIH_MGC_94 Mus musculus cDNA clone IMAGE:5361966 5',
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /tissue_type="retina"
/lab host="DH10B (phage-resistant)"
/clone lib="NNH MGC 94"
/note="Organ: eye, Vector: pCMV-SPORT6; Site_1: Not1;
Site_2: SAl1; Cloned unidirectionally; oligo-dr primed.
Average insert size 3.3 kb. Library enriched for
                                        370 CACCTCCTCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCG
                                                                                                                                                                                                                                                                                                                                                             490 GGTGTGGGTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGGGGGTGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               892 CCTCATCACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCCAGCGTCACCTTCTTTAA
                                                                                                                                                                                652 CACCTCCTCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCG
                                                                                                                                                                                                                                                                             772 GGTGTGGGTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                            610 cricarcacecriccacacresacricririacececericreaecereriraa
                                                                                                                                                                                                                                                           712 AGCGGTCTCATACCGGGCCCAGCAGGGTGACACGCGGCGGCGGCAGGTGCCGGTTGCTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                 832 CGGGGGCAGCTCCATCCCCGAGGCCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /mol_type="mRNA"
/db_xref="taxon:10090"
/clone="IMAGE:5361966"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mus musculus (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BI731453.1 GI:15708466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mRNA sequence.
BI731453
                                                                                                     592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BI731453
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMMENT
                                                                                                                                        셤
                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                 ઠે
                                                                                                                                                                              8
                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                     /clohe lib="NHH MGC 145"
/note="Vector: pcDNA3.1; Site_1: varies by clone; Site_2:
varies by clone; ORFs were PCR-emplified and cloned into pcDNA3.1 by the GPCR Consortium. Cloning sites vary by clone and include the following: 5'-ECGRV-XmnI/KhoI-3', 5'-ECGRV-XmnI/KhoI-3', 5'-ECGRV-XmnI/KhoI-3', please visit our anonymous ftp site at please visit our anonymous ftp site at ftp://image.lnh.gov/image/rearrayed_plates/IRBI.preSV.dat a Note: this is a NH MGC Library."
                                                                                               732 bp mRNA linear EST 25-JUL-2003
AGENCOURT 14740187 NIH MGC 145 Homo sapiens CDNA clone
IMAGE:6971899 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGAGGGGGGGGGGGGGGGGGGGGGGGGGTTCTCGGCAGCCTGGACCGCGGGTGCTGGC 129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTTCGTGGCCCGACTCGCACCTCCGCACCCAGAACTTCTTCCTGCTCAACCTCGCCAT 249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTTCGTGGCCGACTCGAGCCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCAT 531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGCGCTCATGGCGCTCGTCGTCGTGGCCACGGTGCTGGGCAACGCGCTGGTCGTCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10 cerreccaredadececececececedadesececereaacecrresesesecereses
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGATGCGGCGGCGGCGGGGGGGCGCGCGCGTTCTCGGCAGCCTGGACCGCGGTGCTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCGCTCATGCCGCTCCTCATCGTGGCCACGGTGCTGGCAACGCGCTGGTCATGCTCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGGGGCCATGGAGCGCGCCGCCCGACGGCCGCTGAACGCTTCGGGGGCGCTGGCGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 732;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   h 25.2%; Score 680.8; DB 7; Similarity 98.2%; Pred. No. 8.2e-126; 99; Conservative 0; Mismatches 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /clone="IMAGE:6971899"
/tissue_type="mixed"
/lab_host="DH108"
                                                                                                                                                                                                CF147822.1 GI:33244090
                                                                                                                                                                                                                                         Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity 98.2
Matches 699; Conservative
                                                                                                                                                                                                                                                             Homo sapiens
                      792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                  VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                REFERENCE
AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                            ACCESSION
                                                                             RESULT 4
CF147822
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
```

DRIGIN

g 8 임

g ò

ò

g

셤 ò

δ

g

ò

g

δ g ò 셤 ò 요 ò ద

ò

```
242 GCGCTGCTCATCGTGGCCACAGTACTGGGCAACGCGCTGGTCATGCTCGCCTTCGTGGCG 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gedecededecececececerrereseradeseradadesececececececececerad 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGCAGC 841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           genedadecededecedecrirencedecreceridadecederecerecerederecente
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAGCGCGCCCCCCCCGACGGCCCCTTCGGGGGCGCCTTGGCGGCGATGCGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         122 gagcecececececesecesecreargaacecercesecereceseceseseseseses
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCCGACCCGGCCAAGGGCCCGCAAAGACGAGGCTCCCGGGGCCCGCGCCCCTCCCGGCCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                             CACGCGTCCGCGAAGAGCCGGCAAAGATTAGGCTCACGAGCGGGGGCCCCACCCGGCCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTCGTGGGTGCCTTCTGCATTCTATATGTACGTACCCTATGTAGTGCTGACCGGCCGTTGGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGGCCTTCCTGCTGTATGGGCCTGCCATCCTGAGTTGGGAGTACCTGTCTGGTGGCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GACTCGAGCCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGACTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTGGACTACCTGCTGTGTGCACTCCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TACCGGGCCCAGCAGGGTGACACGCGGCGGCAGTGCGGAAGATGCTGCTGGTGTGGGTG
        E 1 (Dases 1 to 672)

S Amgen EST Program.

L Unpublished (2003)

Contact: Dan Fitzpatrick
Amgen, Inc
One Amgen Center Drive, Thousand Oaks, CA 91320-1799, USA
Tel: 805 447-4881

Plate: 00001 row: d column: 6.

Location/Qualifiers
                                                                                                                                                                                                   /organism="Rattus norvegicus"
| Mol Lype="mRNA"
| db xref="taxon:10116"
| clone="urgpl-00001-d6"
| clone lib="urgpl (14349)"
| clone lib="urgpl (14349)"
| clone lib="vector: pSPORT1; Rat GPCR library rearrayed internal pSPORT1 vector.
                                                                                                                                                                                                                                                                                                                                                      20.1%; Score 543; DB 6;
88.1%; Pred. No. 3.4e-98;
iive 0; Mismatches 80
                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity ...-
Matches 591; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCCATCCCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCCATCCCCGA
      Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                        182
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ~
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    782
                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     562
                   REFERENCE
AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                         ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              상 음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                     1068
                                                                                                                                                                                                                                                                                                                                                                                                         1188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AMENIUC: URGP1-00001-D6-A urgp1 (14349) Rattus norvegicus cDNA clone Urgp1-00001-d6 5', mRNA sequence. CBS56920 (CBS56920.) GI:29496320
                                                                                                    4
                                                                                                                                                                                                     1011
                                                                                                                                                                                                                                                                                                                                       1128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGGCTCCGTGGCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCCACTGAGAGGCC 1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1249 GCGCTCACTCAAGAGGGCCTCCAAGCCGTCGGCGTCCTCGCCTCGCTGGAGGCGCAT 1308
                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                        236
                                                                                                                                                                                                                                                                                                                                                                                                                                        296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              959
                                                                                                                                     952
                                                                                                                                                                                                                                                                                                      177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                776
                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rattus norvegicus
Rattus norvegicus
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae,
full-length clones and constructed by Life Technologies.
Note: this is a NIH_MGC Library."
                                                                                                                                                                                                                      CGTCAGCATCTACCTGAACATCCAGAGGGGCACTCGTCTTCGGCTGGATGGGGGGCCGAGA
                                                                                                                                                                                                                                                                                      CTGCTGGGGCTGCTGGCCAAAGGGGCACGGGGAGGCCATGCC-ATGCACAGGTATGGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                        AGGGGCTGCTGCCTCGCCTACCTCCAGCTCCGGCAGCTCCTCAAGGGGCACTGAGAGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CITCIGGCITCIGIGGGCCAACTCGGCCGTCAACCCCGTCTCTACCCACTGTGCCACTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  657 CAGCTTCCGTAGAGCCTTCACCAAGCTCCTCTGCCCCCAGAAGGTCAAGGTCCAGCCCCA
                                                                                                                                                                                                   C-TCAGCATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGGGCTCGAGA
                                                                                                                                                                                                                                                                   GGCAGCCGGCCCCGAGCCCCCTCCCGAGGCCCTCACCACCCCCCA----CCGCCTGG
                                                                                                                                                                                                                                                                                                                                                                                                     GGGTGAGGCGCCGTAGGCGCTGAGGCCGGGGAGGCGACCCTCGGGGGGTGGCGGTGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAAGATGGTGTCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAAGTCGCTGGCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCCATACACGCTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              477 CAAGTCGCTGGCTATCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCGTACACACTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGCTTCCGCCGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGGCTCCCTGGAGGAGTGCTGGAAGTGAGGAGCCCTTCTACCGGCAGGCCCT
                                                                                                                                   CTCATCACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAAC
                                                                                                                                                                  crcarcaccerccaccrcaagrrcrrcacaccerccacacgrracerrcrraag
                                                                                                                                                                                                                                                                                                                                     CTGCTGGGGCTGCTGGCAGAAGGGGCCACGGGAGGCCATGCCGCTGCACAGGTATGGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      417 GAAGATGGTATCCCAAAGCATCACCCAGCGCTTTCGGCTGTCGCGGGACAAGAAGTAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GATGATCATCCGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          537 CATGATCATCCGGGCTGCTTGCCATGGCCACTGCGTCCCGACTACTGGTACGAGGCGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTTCTGGCTCCTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCA
                                                                                                    Gaps
                                                                                                  .;
8
                                                                   890;
                                                                Score 549.6; DB 4; Length
Pred. No. 1.7e-99;
0; Mismatches 109; Indels
                                                                 20.4%;
85.0%;
                                                              Query Match
Best Local Similarity 85.0°
Matches 663; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EST.
                                                                                                                                                                                                                                                                     1012
                                                                                                                                                                                                                                                                                                                                     1069
                                                                                                                                                                                                                                                                                                                                                                      178
                                                                                                                                                                                                                                                                                                                                                                                                       1129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1549
                                                                                                                                                                  Н
                                                                                                                                                                                                                                                                                                                                                                                                                                      237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1369
                                                                                                                                                                                                   953
                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 6
CB556920
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                  ORIGIN
```

ö 241

Gaps

.. 0

Length 672; 80; Indels 61

361 181 241 481 541

601 421 661 481 721 541

g

ઠ

셤

ઠે

셤

ઠે

유

ò

g

ò

661

us-10-727-021-5.rst

```
/mol_type="mRNA"
/db_xref="taxon:9606"
/tissue_type="embryonic stem cells, cell lines H1, H7, and
                                               1775
                                                                                                                                                                                                                                                1835
                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                       479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EST 16-MAY-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
301 GGCTCGTTCCCCCAGGGGTGAGCCCCGCGTGTCTGTGGCCCTCTCTTAATGCCACGGCA 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /clone_lib="GRN_ES"
fronte="Oligo dT primed, full-length enriched cDNA library
from undifferentiated hES cell lines H1 (p32), H7 (p29),
and H9 (p26) maintained in feeder-free conditions"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    261 cesescercrecaaecrerescrestasresearacrescrecrererecaecrecrererecerric 320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 (bases 1 to 716)
Enadenberger, R., Wei, H., Zhang, S., Lei, S., Murage, J., Fisk, G.J.,
Li, Y., Xu, C., Fang, R., Guegler, K., Rao, M.S., Mandalam, R.,
Lebkowski, J. and Stanton, L. W.
Transcriptome characterization elucidates signaling networks that
control human ES cell growth and differentiation
Nat. Biotechnol. 22 (6), 707-716 (2004)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 716)
                                                                                                                                                                                                                                                                                                                                                                        421 GGAGGCTGGGCGGCCCTGCCCCCCCACATTCTGGCTCCACC-GGGAGGGACAGTCTG
                                                                                                                                                 GGCTCGTTCCCCCCAGGGGTGAGCCCCCGCGTGTCTGTGGCCCCTCTTTAATGCCACGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       608 CGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCTCTGTGCCTTC
                                                                                                                                                                                                                                                548 GGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGGACCTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          201 dececcirciedareceaerarararaceraceracadeaececeradaeceracee
                                                                                                                                                                                                                                                                                                                                                                                                                                           GAGGTCCCAGACATGCTGCCCACCCCTGCTGGTGCCCACCCTTCGCAGTTACT 1949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CN423054 1inear EST 16
17000424504731 GRN_ES Homo sapiens cDNA 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  480 GAGGTCCCAGACATGCTGCCCACCCCTGCTGGTGCCCACCCTTCGCAGTTACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 716;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       230 Constitution Drive, Menlo Park, CA 94025, USA Tel: 650 473 8658 Fax: 650 473 7760 Email: rbrandenberger@geron.com Insert Length: 716 Std Error: 0.00.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19.1%; Score 516; DB 7; 1
100.0%; Pred. No. 8.8e-93;
Live 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Insert Length: 716 Std Erro
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CN423054.1 GI:47410648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Regenerative Medicine
Geron Corporation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 100.
Matches 516; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                           1896
                                                                                                                                                 1716
                                                                                                                                                                                                                                             1776
                                                                                                                                                                                                                                                                                                                                            1836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 8
CN423054
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          엄
                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                               ઠે
                                                                                               d
                                                                                                                                                 ð
                                                                                                                                                                                    셤
                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /lab host="Top10F""
/clone_lib="B2N807043"
/clone_lib="B2N807043"
/clone_lib="B2N807043"
/clone_lib="B2N807043"
/clone_lib="B2N807043"
/site_1: Rocklip | (A) + RNA was dephosphorylated with Site_2: Not1; The poly (A) + RNA was dephosphorylated with bacterial alkaline phosphatase (BAP) and then decapped with tabacco acid pyrophosphatase (TAP). The decapped intact mRNA was ligated with DNA-RNA linker including ECORI site by treatment of FT RNA ligase and the first strand cDNA was synthesized from oligo dT-selected mRNA by priming with dT-tailed vector. The CDNA vector was adjusted to have about 6ont. The CDNA vector was circularized with E. coli DNA ligase after digestion of ECORI which site is also included in vector. An RNA strand converted to a DNA strand by Osyama-Berg method. The
                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 533) Kim, N.S., Hahn, Y., Oh, J.H., Lee, J.Y., Ahn, H.Y., Chu, M.Y., Kim, M.R., Oh, K.J., Cheong, J.E., Sohn, H.Y., Kim, J.M., Park, H.S., Kim, S. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTCTGTGCCACCACCAGCTTCCGCCGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCA 1595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1416 CATACACGCTGCTGATGATCATCCGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACT 1475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1476 GGTACGAAACCTCCTTCTGGCTCCTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACC 1535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CB154982 533 bp mRNA linear EST 29-JAN-2003 K-EST0213081 B2N807043 Homo sapiens cDNA clone B2N807043-31-C05 5',
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          obtained cDNA vectors were used for transformation of competent cells E. coli Toplor by electroporation method. The CONA libraries constructed by this method are full-length enriched cDNA library."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 GGTACGAAACCTCCTTCTGGCTCCTGTGGGCCAACTCGGCTGTCAACCTCTTCTACC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTCTGTGCGCACCACCACCGCCGCCCGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 CATACACGCTGCTGATGATCATCCGGCCCGCCTGCCATGGCCACTGCGTCCCTGACTACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Contact: Kim YS
Genome Research Center
Korea Research Institute of Bioscience & Biotechnology
52 Eceun-dong Yuseong-gu, Daejeon 305-333, South Korea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           19.3%; Score 522; DB 6; Length 533; 99.8%; Pred. No. 5.4e-94; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                21C Frontier Korean EST Project 2001
Unpublished (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /mol_type="mRNA"
/db_xref="taxon:9606"
/clone="B2N807043-31-C05"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    'organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Email: yongsung@mail.kribb.re.kr
Plate: 31 row: C column: 05
High quality sequence stop: 533.
Location/Qualifiers
                                                                                                                                              CB154982
CB154982.1 GI:28140085
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Fax: +82-42-860-4409
                                                                                                                                                                                                                       sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Tel: +82-42-860-4470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 99.8
Matches 533; Conservative
                                                                                                                          mRNA sequence.
                                                                                                                                                                                                                                                Ното варіепв
                                                                                                                                                                                                                                                                                                                                                                                              Kim, Y.S.
                                                                                                                                                                                                                         Homo
                                                                                                                                                                                              EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1596
                                                                                                                                                                                           KEYWORDS
SOURCE
ORGANISM
                                                                                               DEFINITION
                                                                                                                                            ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
JOURNAL
                         RESULT 7
CB154982
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORIGIN
```

ઠ g g

ò

q

ò

_

1236

9

10;

Gaps

23;

1296

120

1356

180

1416

240

1476

1536

1596

1656

EST 16-MAY-2004

17.7%; Score 476.6; DB 2; Length 910;

Query Match

8 & ઠે a සි ර ठे g ઠે g ઠે 셤 ò 셤

```
TCAGCCACGCCTCTCTCAGCCCAGGTCTCCTGGGCATCTGGCCCTGCTGCCCCCTACCCCG 1716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCTCGTTCCCCCAGGGGTGAGCCCCGCCGTGTCTGTGGCCCTCTCTTAATGCCACGGCAG 1776
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361 TCTGTGCCACCACCACAGTTCCG---CGGCTTCACCAAGCTGT--CTGCCCCAGAAGCTCAA 415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241 ATACACGCTGCTGATGATCATCCGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301 GTACGAAACCTCCTTCTGGCTCCTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      529 GGTCGTT-CCCCAGGGGGAGACCCCG-CGTCTCTGTGGCCTCTTATGCCACGAGCAC 586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryottania Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.

I (basea I to 46)

Brandenberger, R., Wei, H., Zhang, S., Lei, S., Murage, J., Fisk, G.J., Li, Y., Xu, C., Fang, R., Guegler, K., Rao, M.S., Mandalam, R., Li, Y., Xu, C., Fang, R., Guegler, K., Rao, M.S., Mandalam, R., Transcriptome characterization elucidates signaling networks that control human Es cell growth and differentiation

Nat. Biotechnol. 22 (6), 707-716 (2004)

Regenerative Medicine

Geron Corporation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1237 CACTGAGAGGCCGCGCTCACTCAAGAGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCGCT
                                                                                                                                                                                                                                                    121 GGAGAAGCGCATGAAGATGGTGTCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGA
                                                                                                                                                                                                                                                                                                                                            181 CAGGAAAGTGGCCAAGTCGCTGGCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTACGAAACCTCCTTCTGGCTCCTGTGGGCCCAACTCGGCTGTCAACCCTGTCCTTACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCTGTGCCACCACAGCTTCCGCCGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1177 TGGCGGTGGGGGGCGCTCCGTGGCTTCACCCTCCAGCTCCGGCAGCTCCTCGAGGGG
                                                                               1 TGGCGGTGGGCGCTCCGTGGCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGG
                                                                                                                                                               61 CACTGAGAGGCCGCGCTCACTCAAGAGGGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCGGCT
                                                                                                                                                                                                                       GGAGAAGCGCATGAAGATGGTGTCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CN335777 466 bp mRNA linear EST 16
17000424505478 GRN_ES Homo sapiens cDNA 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1837 GAGGCTGGGCCGGCCCTGCCCCCCACATTCTGGCTCCACCGGGGAG 1885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               640 ATGCTGGGGTGGCGGCCCCTG--CCCCAAATTCTGGGTCCACGGGAGGG 686
                       Indels
89.1%; Pred. No. 7.1e-85;
tive 0; Mismatches 54;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CN335777.1 GI:47335711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens (human)
Homo sapiens
                  Matches 632; Conservative
  Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CN335777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EST.
                                                                                                                                                                                                                       1297
                                                                                                                                                                                                                                                                                                     1357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   587
                                                                                                                                                                                                                                                                                                                                                                                    1417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 10
CN335777
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
                                                                                                                                     ò
                                                                                                                                                                         g
                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    원
                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /clone="IMAGE:3874260"
/tissue_type="retinoblastoma"
/tish_host="PH10B (phage-resistant)"
/clone_lih="NIH MGC 67"
/note="Grgan: eye, Yector: pCMV-SPORT6; Site_1: Not1;
Site_2: Sal1; Cloned unidirectionally. Primer: Oligo dT.
Technologies."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BE783826 910 bp mRNA linear EST 20-OCT-2000 601471053F1 NIH_MGC_67 Homo sapiens cDNA clone IMAGE:3874260 5',
                                                                                                                                                                                                                                                                                                                                                                                                                        968 AACATCCAGAGGGGCACCCGCCTCCGGCTGGATGGGGCTCGAGGAGGCAGCCGGCCCCGAG 1027
                                                                                                                                                                             847
                                                                                                                                                                                                                                                                                                     260
                    727
                                                          380
                                                                                                  787
                                                                                                                                        440
                                                                                                                                                                                                  907
                                                                                                                                                                                                                                                                                                                                          ACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCATCTACCTG 967
                                                                                                                                                                                                                                                                                                                                                                                  620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 910)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Contact: Robert Strausberg, Ph.D.

Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCs

CDNA Library Preparation: Life Technologies, Inc.

CDNA Library Preparation: Life Technologies, Inc.

CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LINL)

DNA Sequencing by: Incyte Genomics, Inc.

Clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:

http://image.lln.gov

Plate: LLAM9631 row: i column: 13

High quality sequence stop: 601.
                                                                                                                           GCCCAGCAGGTGACACGCGGCGGCAGTGCGGAAGATGCTGCTGGTGTGGTGCTGGCC
                                                                                                                                                                                                                                                                                  CCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCACGGCTTCC
                                                                                                                                                                                                                                                                                                                                                                 561 ACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCATCTACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                 AACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTCATACCGG
                                                                                                                                                                             TTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGGGCAGCTCCATC
                                                                                                                                                                                                                                                             CCCGAGGCCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCACGGCTTCC
                                                                                                  GCCCAGCAGGGTGACACGCGGCGGGCAGTGCGGAAGATGCTGCTGGTGTGGGTGCTGCTGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCCCTCCGAGGCCCAGCCTCACCACCCCACCG 1063
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1. .910
/organism="Homo'sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BE783826.1 GI:10205024
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Technologies.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1028
                                                          321
                                                                                                                                     381
                                                                                                                                                                             788
                                                                                                                                                                                                                     441
                                                                                                                                                                                                                                                           848
                                                                                                                                                                                                                                                                                                  501
                                                                                                                                                                                                                                                                                                                                          806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             681
                                                                                              728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 9
BE783826
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORIGIN
```

þe

```
/done liber_Unity Action (254" / floore="Organ: brain/CNS; Vector: pExpress-1; Site_1: Booky, Site_2: Not1; RNA obtained from brain tissue of 8 wk old animal. Tissues were snap-frozen and kept at -80C before RNA extraction and purification (Tri-reagent method). cDNA was primed using oligo-dr primer: 5-pGACTAGTTCTAGATCGCAGGCGCCC(T)25-3' and cloned into the EcoRV/Not1 sites of pExpress-1. Size-selection >1.25kb resulted in an average insert size of 2.18 kb. This primary library is not normalized (normalized library is NIH MGC 255) and was constructed by Express Genomics (Frederick, MD). Note: this is a NIH_MGC library"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /tissue type="Brain - Pooled from several tissues from one or more individuals" /lab_host="DH10B TonA"
Office of Cancer Genomics

National Cancer Institute / NIH

Bldg. 31 Rm10A07 Bethesda, MD 20892

Email: cgapbs=r@mail.nih.gov
Tissue Procurement: Drs. Josef Lazar & Howard Jacob, Medical
College of Wisconsin
CDNA Library Preparation: Express Genomics
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bloscience Corporation
Clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAM15369 row: b column: 01
High quality sequence stop: 637.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            277 CCCAGCTCTCCGCCCGGGCCCTGCCCGGTGTCCCCCAAGCGTGTGAGCCTGCTGGGGCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      74 CGCTGCCGGCCCCACTGGGCTCGGA-TCCGGCCCCCGGCCCCTCGGCACCGCCT----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              158 ACTCTAGCCCGGGCTCTTGCTCCGACCCGGGGCCATGCTCCGGGCGCCCCC-CGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      217 ACCGGGCTGGGCGAAGACCGGCAAAGATTAGGCTCACGAGCGGGGGCCCCACCCGGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCCAGCTCTCGGCCGGCGCCCTGCCCCGCGTCCCCGGAGCCGCGTGAGCCTGCGGGGCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     337 GGAGCGCGCCGCCCGACGGCTGATGAACGCGTCGGGCACTCTGGCCGGAGAGGCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 457 GGGGTGCTCATCGTGGCCACAGTACTGGGCAACGCGCTGGTCATGCTCGCCTTCGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGCTGCACGGTCGCACCGGCAGCGGCTCAGGCTCCGGCTCCTCTCCCGCTGCAGCAGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Geceecceccanceactical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    127 -----GCTCTGGCCCCCGGCCCCGGCCCCGGACCATGCGCTGGGCGCCCCCCAGGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCCGACCCGGCCCAAGGCCCCGCAAAGACGAGCTCCCGGGCCGGGGCCCCCTCCCGGCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361 GGCGGCGGGCGCGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCGTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421 GGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15.9%; Score 429.6; DB 7; Length 842; 83.7%; Pred. No. 1.9e-75; ive 0; Mismatches 90; Indels 15
                                                                                                                                                                                                                                                                                                                                                               /organism="Rattus norvegicus"
/mol Lype="mRNN"
/db xref="taxon:10116"
/clone="IMAGE:7315203"
                                                                                                                                                                                                                                                                                                                                                                                                                                                     'sex="both"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches 538; Conservative
                                                                                                                                                                                                                                                                                                                                      1. .842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local
                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    업
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                         /organism="Homo sapiens"
Mon_type="mRNA"
Ab xref="tex=1506"
/tissue_type="embryonic stem cells, cell lines H1, H7, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CO403631

AGENCOURT 27526928 NIH MGC 254 Rattus norvegicus cDNA clone
AGENCOURT 27526928 NIH SECUENCE
AGENCOURT 27526928 NIH MGC 254 RATTUS NORVEGICUS CDNA CLONE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                    /clone_lib="GRN_ES"
/note="oligo dT primed, full-length enriched cDNA library
from undifferentiated hBS cell lines H1 (p32), H7 (p29),
and H9 (p26) maintained in feeder-free conditions"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rattus norvegicus
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCCGGCTCGTTCCCCCAGGGGTGAGCCCCGCCGTGTCTGTGGCCCTCTTTAATGCCACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 TCCCTCAGCCACGCCTCTCAGCCCAGGTCTCCTGGGCCATCTGGCCCTGCTGCCCCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACTGGAGGCTGGGTGGCCGGCCCTGCCCCCAATTCTGGCTCCACC-GGGAGGGACAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTGGAGGTCCCAGACATGCTGCCCACCCCCTGCTGGTGCCCCACCCTTCGCAGTTACTGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGGTGTTCTTCCCAAAGCAAGCACCTGGGTGTGCTCCAGGCTTCCTGCCCTAGCAGTTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCAAAATCCAGCCCCACAGCTCCCTGGAGCACTGCTGGAAGTGACTGGCCCACCAGAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 rcaaaarccagccccacacrccrggagcacrccrggaagrgagcccaccagagcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCCCTCAGCCACGCCTCTCTCAGCCCAGGTCTCCTGGGCATCTGGCCCTGCCCCCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCCGGCTCGTTCCCCCAGGGGTGAGCCCCGCCGTGTCTGTGGCCCTCTTAATGCCACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         regretricitectaaacaacaccieererecrecaecricerecereceraecaerire
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 (bases 1 to 842)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCTCTGCACGTGCACACCTGCACACCCTGCACACCTGCACAC 2059
                                                                                                                                                                                                                                                                                                                                                                                                           Length 466;
230 Constitution Drive, Menlo Park, CA 94025, USA Tel: 650 473 8658
Fax: 604 7750
Email: rbrandenberger@geron.com
                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                       16.9%; Score 455; DB 7; 99.8%; Pred. No. 1.4e-80; ative 0; Mismatches 0;
                                                                     rbrandenberger@geron.com
Length: 466 Std Error: 0.00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Contact: Daniela S. Gerhard, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Rattus norvegicus (Norway rat)
                                                                                        Insert Length: 466 Std Erro
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CO403631.1 GI:49585547
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                         1. .466
                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CO403631
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches 466;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                         source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 11
                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CO403631
                                                                                                                                                                                                                                                                                                                                                               ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOURCE
```

엄 ò 셤

ઠ

g ò 셤 ò 셤 à g ò ద

ò

g

ò

4

Gaps

126 157 180 216

97

240

g

ઠે

g Š 硆

ઠે

```
Musmalia, Eutheria; Rodentia; Sciurognath; Muridae; Murinae; Muscaulus

Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Bukaryota; Metazoa; Chordata; Sciurognathi; Muridae; Murinae; Mus.

Cazaki, Y., Furuno, M., Kasukawa, T., Adachi, J., Bono, H., Kondo, S.,

Nikaido, I., Osato, N., Saito, R., Suzuki, H., Yamanaka, I.,

Kiyosawa, H., Yagi, K., Tomaru, Y., Hasegawa, Y., Mogami, A.,

Schonbach, C., Gojobori, T., Baldarelli, R., Hill, D.P., Bult, C.,

Hume, D.A., Quackenbush, J., Schriml, L.M., Kanapin, A., Matsuda, H.,

Batalovis, Balsel, K.W., Blake, J.S., Dalla, B., Dragani, T.A.,

Chothia, C., Corbani, L.B., Cousines, S., Dalla, B., Dragani, T.A.,

Fletcher, C.F., Forrest, A., Frazer, K.S., Gaasterland, T.,

Gustincich, S., Hirokawa, N., Jackson, J.J., Jarvis, E.D., Kanai, A.,

Kawaji, H., Kawasawa, Y., Kedzierski, R.M., King, B.L., Konagaya, A.,

Kurochin, I.V., Lee, Y., Lenhard, B., Lyons, P.A., Majlott, D.R.,

Multais, L., Marchionni, L., McKenale, L., Miki, H., Nagashima, T.,

Numata, K., Okido, T., Pavan, W.J., Pertea, G., Pesole, G.,

Ravasi, T., Reed, J.C., Reed, D.J., Rendchandran, S.,

Ravasi, T., Reed, J.C., Reed, D.J., Serbou, M., Shimada, K.,

Sultana, R., Takenaka, Y., Taylor, M.S., Teasdale, R.D., Tomita, M.,

Varardo, R., Walner, L., Wahlshaw-Boris, A., Yanagisawa, M., Yang, I.,

Hayatsu, N., Hirozane-Kishikawa, T., Konno, H., Nakamura, M.,

Rakawa, T., Fukuda, S., Hara, A., Hashisume, W., Inotani, K., Ishhi, Y.,

Itoh, M., Kagawa, I., Wara, A., Hashisume, W., Inotani, K., Ishhi, Y.,

Rogers, J., Banney, E. and Hayashizaki, Y.

Rogers, J., Sato, K., Shirak, T., Waterston, R., Lander, E.S.,

Rogers, J., Sato, Y., Hara, A., Yashino, W., Waterston, R., Landerson, R.,

Rogers, J., Sato, Y., Waterston, R., Saski, N., Yasaa, K.,

Rogers, J., Sato, K., Shirak, Y., Yashino, W., Saska, K., S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BY727560 BYRN full-length enriched, adult male cortex Mus musculus cDNA clone B530005H20 5', mRNA sequence.
                                                                                           AAGATGGTGTCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCC 1369
                                                                                                                                                                                                            1370 AAGTCGCTGGCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCCATACACGCTGCTG 1429
                                                                                                                                                                                                                                                                                                                                1430 ATGATCATCCGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCC 1489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Laboratory for Genome Exploration Research Group, RIKEN Genomic Sciences Center(GSC), Yokohama Institute
The Institute of Physical and Chemical Research (RIKEN)
1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan Tel: 81-45-503-9222
Fax: 81-45-503-9216
Email: genome-res@gsc.riken.jp, URL:http://genome.gsc.riken.jp/
                                                                                                                                                     417
                                                                                                                                                                                                                                                AAGTCGCTGGCCATCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCGTACACGCTCCTA 477
537
                                                                                                                                359 AAGATGTCCCCAGAGCATCACCCAGCGCTTCCGGCTGTCGCGGGACAAGTGGCC
                                                                                                                                                                                                                                                                                                                                                                                    478 ATGATCATCCGAGCTGCTTGCCATGGCCGCTGCATCCCCGATTACTGGTACGAGACGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Contact: Yoshihide Hayashizaki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mus musculus (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BY727560.1 GI:27140687
                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTCTGGCTCC. 1499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Trcredcrrc 547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mus musculus
                                                                                           1310
                                                                                                                                                                                                                                                                         418
                                                                                                                                                                                                                                                                                                                                                                                                                                                 1490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          538
                                    299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
MEDLINE
PUBMED
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 13
BY727560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
                                                                                           8
                                                                                                                                         셤
                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CB611519 547 bp mRNA linear EST 07-APR-2003 AMGNNUC:NRHY3-00179-H8-A W Rat hypothalamus (10735) Rattus norvegicus cDNA clone nrhy3-00179-h8 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1130 GGTGAGGCGGCCGTAGGCGCTGAGGCCGGGGAGGCGACCCTCGGGGGGTGGCGGTGGGGGC 1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGCTCCGTGGCTTCACCCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCG 1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1250 CGCTCACTCAAGAGGGGCTCCAAGCCGTCGGCGTCCTCGGCTCGCTGGAGAAGCGCATG 1309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /Lissue type="hypothalamus"
/clone lib="W Rat hypothalamus (10735)"
/note="Vector: pSPORT1; Site_1: Sal1; Site_2: Not1; W Rat
                                    540
                                                                                           576
                                                                                                                                                     900
                                                                                                                                                                                                         577 cerceregerecerrerecarrecarreraceracerarererereseces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          62 --- GCTGGCCCAGAACCCCCACCAGATGCCCAGCCTCGCCACCTCCAGCTCCCCCCAGC 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         119 TGCTGGGGCTGCTGGCCAAAAGGGCATGGCGAGGCCATGCCGTTGCAGGTATGGGGTG 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  179 GGTGAGGCAGGCCCTGGTGTTGAGGCTGGGGAGGCTGCCCTCGGGGGTGGCAGTGGTGGA 238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      239 GGTGCTGCTGCCTCGCCCACCTCCAGCTCTGGCAGCTCCTCAAGGGGCACTGAGAGGCCA 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1070 TGCTGGGGCTGCTGGCAGAAAGGGGCACGGGGAGGCCATGCCGCTGCACAGGTATGGGGTG
                                                                                           517 GGATTCGAGCCTCCGCACCCAGAACAACTTCTTTCTGCTCAACCTCGCCATCTCCGACTT
                                                                                                                                                     CCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCTACGTGCTGACAGGCCGCTGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 crcadcarcraccrdaacarccadaddcacccccccrrcdgcrrcarddggccccrcad
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCAGCCGGCCCCGAGCCCCCTCCCGAGGCCCCACCACCACCCCCCA---CCGCCTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              One Amgen Center Drive, Thousand Oaks, CA 91320-1799, USA Tel: 805 447-4881
Plate: 00179 row: h column: 8.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 390.8; DB 6; Length 547;
Pred. No. 1.1e-67;
0; Mismatches 72; Indels 7
                                                                                                                                                                                                                                                                   CTTCGCCCGGGCCTCTGCAAGCTGTGGCTGGTGGTAGTGGACTAC 643
                                                                                                                                                                                                                                                                                                    CTTCNGCCGGGGCCTCTGCAAGCTGTGGCTGGTGGTAGACTAC 679

    .547
    organism="Rattus norvegicus"

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /mol_type="mRNA"
/db_xref="taxon:10116"
/clone="nrhy3-00179-h8"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rattus norvegicus (Norway rat)
Rattus norvegicus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 (bases 1 to 547)
Amgen EST Program.
Amgen Rat EST Program.
Unpublished (2003)
Contact: Dan Fitzpatrick
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CB611519.1 GI:29571407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         hypothalamus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14.5%;
85.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches 471; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Amgen, Inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1190
                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                             637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         953
                                 481
                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 12
CB611519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORIGIN
```

ઠે 셤 ⋧ Db ઠ 셤 ò g ò g ò

```
BF531112 409 bp mRNA linear EST 11-DEC-2000 602072279F1 NCI_CGAP_Brn67 Homo sapiens cDNA clone IMAGE:4215354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 40)
NIH-MGC http://mgc.nci.nih.gov/.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /lab_host="DH10B (T1 phage-resistant)"
/clone lib="NCI CGAP Brn67"
/note="Organ: brain; Vector: pCMV-SPORT6; Site_1: Not1; Site_2: Sal1; Cloned unidirectionally. Primer: Oligo dT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tissue_type="anaplastic oligodendroglioma with 1p/19q"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: David N. Louis, M.D.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Thorpe Genomics, Inc.
Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAN9790 row: m column: 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTCGCCTTCGTGGGATTCGAGCCTCCGCACAGAACAACTTCTTCTGCTCAACCTC
                                                                            241 GCCTGCTGGCCATGGAGCGCGCGCCCGACGGGCTGATGAACGCGTCGGGCCTCTG
                                                                                                                                                                                                                                GCGGGCGATGCGGCGGCGGCGGCGGGCGCGCGCGTTCTCGGCAGCCTGGACCGCGGTG
                                                                                                                                                                                                                                                                              301 GCCGGAGAGGCGGCGGCTGCAGGCGGGGCGCGCGGCTTCTCGGCTGCCTGGACCGCTGT
                                                                                                                                                                                                                                                                                                                                                       CTGGCTCATGGCGCTGCTCATCGTGGCCACAGTGCTGGGCAACGCGCTGGTCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACAGGCCGCTGGACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541 ACCGGNNCGTGGACCTTTGGCCGGG--CCTCTGCAGCTGTGGCTGTAGTTACTACT
                                                                                                                                                                                                                                                                                                                              CTGGCCGCGCTCATGGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATG
                                                                                                                                                                                                                                                                                                                                                                                                                            CTCGCCTTCGTGGCCGACTCGAGCCTCCGCACACACACTTCTTCCTGCTCAACCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481 GCCATCTCCGACTTCCTCGFGGGTGCCTTCTGCATCCCATTGTATGTACCCTATGTGTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   599 GTGTGCCTCTC---AGTCTCAACATCGTGCTGATCAGCTATGACCGATCC 645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         647 CTGTGCACCTCCTCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            stop: 409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /mol_type="mRNA"
/db_xref="taxon:9606"
/clone="IMAGE:4215354"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       High quality sequence stop: 4 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BF531112.1 GI:11618475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5', mRNA sequence.
BF531112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     . .409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           587
                                                                                                                               287
                                                                                                                                                                                                                                347
                                                                                                                                                                                                                                                                                                                              407
                                                                                                                                                                                                                                                                                                                                                                                                                            467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BF531112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VERSION
                                                                  g
                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                            ð
                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                         Computational Analysis of Full-Length Mouse cDNAs Compared with Human Genome Sequences Mamm. Genome. 12, 673-677 (2001)
Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes. Genome Res. 10 (10), 1617-1630 (2000)
RIKEN integrated sequence analysis (RISA) system--384-format sequencing pipeline with 384 multicapillary sequencer. Genome Res. 10 (11), 1757-1771 (2000)
Computer-based methods for the mouse full-length CDNA encyclopedia: real-time sequence clustering for construction of a nonredundant cDNA library. Genome Res. 11 (2), 281-289 (2001) cDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /clone lib="RIKEN full-length enriched, adult male cortex" /note="Site 1: Sal1; Site 2: BamHI; cDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Adachi,J., Aizawa,K., Akimura,T., Arakawa,T., Carninci,P., Fukuda,S., Hashizume,W., Hayashida,K., Hirozane,T., Hori,F., Imotani,K., Ishii,Y., Itoh,M., Kagawa,I., Kawai,J., Kojima,Y., Kondo,S., Konno,H., Koya,S., Myrazaki,A., Murata,M., Nakamura,M., Nomura,K., Numazaki,R., Ohno,M., Ohsato,N., Saito,R., Sakazume,N., Sano,H., Sasaski,D., Sato,K., Shibata,K., Shiraki,T., Tagami,M., Iakeda,Y., Waki,K., Watahiki,A., Muramatsu,M. and Hayashizaki,Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCCCCCAGGGGAAACCCGACCCGGCCAAGGCCCCGCAAAGACGAGGCTCCCGGGCCGGG 226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CECCCCC-CGGAAAACCGGGCTGGGTGAAGAGCCGGCAAAGATTAGGCTCAAGAGAGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCTGCAGCAGCCGCCTGCCGGCCCCCACTGGGCTCGGA-TCCGGCCCCGGCCCCTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACCGCCTGCTCTGGCCCCCGGCCCCGGC------CCCGCGGACCATGCGCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   prepare mouse tissues.
Please visit our web site (http://genome.gsc.riken.go.jp) for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 14.4%; Score 389.4; DB 6; Length 653; Best Local Similarity 80.3%; Pred. No. 2.1e-67; Matches 523; Conservative 0; Mismatches 108; Indels 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /db_xref="taxon:10090"
/clone="B530005H20"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /tissue_type="cortex"
/dev_stage="adult"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /mol_type="mRNA"
/strain="C57BL/6J"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /sex="male"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            . 653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         further details.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bource
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
```

ORIGIN

ò 요 ò 요 ò ద

```
Search completed: June Job time: 8905.2 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                208
                                                                                                                                                                                                                                                                                                      ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     쉱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                           2186
                                                                                                                                                                                                            2246
                                                                                                                                                                                                                                                                                  2306
                                                                                                                                                                                                                                                                                                                                                       2366
                                                                                                                                                                                                                                                                                                                                                                                                                             2426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BF567596 499 bp mRNA linear EST 12-DEC-2000 UI-R-BOO-agr-c-06-0-UI.rl UI-R-BOO Rattus norvegicus cDNA clone UI-R-BOO-agr-c-06-0-UI 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 University of Iowa 375 Newton Road, 4156 MEBRF, Iowa City, IA 52242, USA Tel: 319 335 8250
Fax: 319 335 8260
Email: bento-soares@uiowa.edu
cDNA Library Preparation: M.B. Soares Lab Clone distribution:
clones will be available through Research Genetics (www.resgen.com)
This clone is also available through the I.M.A.G.E. Consortium at LLNL (info@inage.llnl.gov). IMAGE ID= 1796445
Seq primer: M13 Forward.
                                                                                                        ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTTGCTCACCCAGGACCTCTGGGGGTTGT 2486
                                                                                                                                                                                                                                               124
                                                                                                                                                                                                                                                                                                                     184
                                                                                                                                                                                                                                                                                                                                                                                          244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   363
                                                                                                                                                                          64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa, Chordata, Craniata, Vertebrata; Buteléostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 (bases 1 to 499)
Bonaldo,M.F., Lennon,G. and Soares,M.B.
Normalization and subtraction: two approaches to facilitate gene
                                                                                                                                                                                                                                65 CCTAGGAACCTCGAAGCTGTTCTCTGCTTTTCCATTCTGGGTGTTTTCAGAAAGATGAAG
                                                                                                                                                                                                                                                                                                                                                                          245 GGCTTCCGGCTGAGCTGTGCCAGCTGCTTCTGCCCACCCCCCCTCTGGGCTCACCACCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCTGGTGGCCAAGCCTGCCCCGG-CACTCTTTTGCTCACCCCAGGACCTCTGGGGGTTGT
                                                                                                                                                                                                            2187 CCTAGGAACCTCGAAGCTGTTCTCTGCTTTTCCATTCTGGGTGTTTTCAGAAAGATGAAG
                                                                                                                                                                                                                                                                                  AAGAAAACATGTCTGTGAACTTGATGTTCGTGGGATGTTTAATCAAGAGAGACAAAATTG
                                                                                                                                                                                                                                                                                                                     125 AAGAAAACATGTCTGTGAACTTGATGTTCCTGGGATGTTTAATCAAGAGAGACAAAATTG
                                                                                                                                                                                                                                                                                                                                                                                                                             GGCTTCCGGCTGAGCTGTGCTGCTTCTGCCCACCCCGCCTCTGGGCTCACACAGC
                                                                                                                                                                             GGCCTGGCCTTTCACCCCTCTTCCCACCAACTCTCTCTGCCCCCAAAAGTGTCAAGGGGGC
                                                                                                                                                                                                                                                                                                                                                       GCCTGGCCCTTTCACCCCTCTTCCCACCAACTCTCTCTGCCCCCAAAAGTGTCAAGGGGGC
                                                                                                        Gaps
Average insert size 2.3 kb. Constructed by Life Technologies. Note: this is a NCI_CGAP Library."
                                                                                                        ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGGAGGAGGGGCCCGGCTGGGCCCGAGGGTCCCAAGGCGTGCAG 2532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGGAGGAGGGCCCGGCTGGCCCGAGGTCCCAAGGCGTGCAG 409
                                                                   Score 386; DB 2; Length 409;
Pred. No. 9.6e-67;
0; Mismatches 5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Contact: Soares, MB
Coordinated Laboratory for Computational Genomics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Rattus norvegicus"
/mol_type="mRNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Genome Res. 6 (9), 791-806 (1996)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Rattus norvegicus (Norway rat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BF567596.1 GI:11677326
                                                                 14.3%;
98.5%;
                                                                     Query Match
Best Local Similarity 98.5
Matches 400; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rattus norvegicus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                discovery
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              97044477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BF567596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8889548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EST
                                                                                                                                                                                                                                                                                  2247
                                                                                                                                                                                                                                                                                                                                                      2307
                                                                                                                                                                                                                                                                                                                                                                                          185
                                                                                                                                                                                                                                                                                                                                                                                                                             2367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   305
                                                                                                                                                                          ß
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         364
                                                                                                                                           2127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 15
BF567596
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
MEDLINE
PUBMED
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                  ORIGIN
```

g

Š

셤

8

a

8

ద

ઠે

g

Š

g

ઠે

셤

ઠે

```
/db xref="taxon:10116"
/dlone="UI-R-B00-agr-c-06-0-UI"
/dev stage="adult"
/dev stage="adult"
/lab host="DH10B (Life Technologies)"
/clone_lib="UI-R-B00"
/clone_lib="Wetcr: pT713D-Pac (Pharmacia) with a modified
polylinker; Site_l: Not I; Site_2: Eco RI; The library
(UI-R-B00) is a subtracted library derived from a mixture
of the following tissues: thalamus, cerebellum,
hypothalamus, medulla, pons, midbrain, cerebral cortex,
corpus striatum and hippocampus. For a detailed
description of the library from which this clone was
derived, please visit our web site at
ratest.eng.uiowa.edu. The subtraction has been previously
described in (Bonaldo, Lennon and Soares, Genome Research
6:791-806, 1996)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       119 GGGGCCTCTGCAAGCTGTGCCTGCTAGACTACCTACTGTGTGCCTCCTCGGTCTTC 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         967
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCCCAGCAGGGTGACACGCGGCGGCAGTGCGGGAAGATGCTGCTGGTGTGGGTGCTGGCCC 787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGCAGCTCCATC 847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               59 GGTGCCTTCTGCATCCCATTGTACGTACCCTATGTGCTGACCGGCCGTTGGACCTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             239 GCCCAGCAGGGGACACGAGACGGCCGTTCGGAAGATGGCACTGGTGTGGGTGTGCTGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     299 TTCCTGCTGTGTATGGGCCTGCCATCCTGAGTTGGGAGTACCTGTCTGGTGGGAGTTCCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCCTGGAGTTCTTTACGCCCTTCCTCGCGTCACCTTCTTTAACCTCAGCATCTACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTCATACCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCACGGCTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         419 ACCCTCGAGTTCTTCACGCCCTTCCTCAGCGTTACCTTCTTCAACCTCAGCATCTACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             548 GCCCCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGGACCTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCCTCTGCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gapa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 499;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       44; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  13.8%; Score 371.2; DB 90.0%; Pred. No. 9e-64; tive 0; Mismatches 4
strain="Sprague-Dawley"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2, 2005, 14:34:37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AACATCCAGAGGCGCACCCGC 499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AACATCCAGAGGCGCACCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 13.8
Best Local Similarity 90.0
Matches 397; Conservative
```

THIS PAGE BLANK (USPTO)

```
GenCore version 5.1.6
```

		June 2, 2005, 05:05:49 ; Search time 5779.82 Seconds
		9.82
Ltd		577
Copyright (c) 1993 - 2005 Compugen Ltd.		time
Com		arch
900	del	Se
- 2	ŌE .	49
993	g B	: 05
()	usin	, 05
lht (ch,	2005
oyrig	веаг	7
Cor	OM nucleic - nucleic search, using sw model	June
	1	
	ucleic	0
	OM D	Run on:

	(without alignments) 11192.003 Million cell updates/sec
Title: Perfect score:	US-10-727-021-6 1335
sednence:	1 atggagcgcgccgccgaccctggagcactgctggaag 1335

IDENTITY NUC Gapop 10.0 , Gapext 1.0 Scoring table:

4708233 segs, 24227607955 residues Searched:

9416466 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

99 ba: *
99 bb: *
99 bb: *
90 com: * GenEmbl: * Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

AR135733 Sequence
BD238873 Isolated
AR217195 Sequence
BD235872 Isolated
AR217194 Sequence
AX542263 Sequence
AX542263 Sequence
AF140538 Homo sapi
AF019000 Homo sapi
AF019000 Homo sapi
AR559688 Sequence
AR559688 Sequence
AR045369 Homo sapi
AR104202 Sequence
BD086286 G protein
AR104201 Sequence
BD086286 G protein
CQ730452 Sequence Description AR217195 AR135732 BD235872 AR217194 AX549263 AF140538 AF321910 AB019000 Query Match Length DB 1335 1335 1335 1335 1335 1335 1335 1331 1331 1331 1331 1331 1331 1351 1351 1351 1351 1351 1351 1351 1351 1351 1351 Score Result No.

ARS59688 AB045369 AR104202 BD086286 AR104201 BD086285 CQ730452 AY231164

AF267537 Cavia por AF237919 Rattus no AR104204 Sequence BD086288 G protein AY009370 Rattus no	AR559692 Sequence AY144145 Whu muscu AY044153 Mus muscu AB015646 Rattus no	AR104203 Sequence BD086287 G protein BD88959 Uge of hi AF267538 Cavia por	AJ296652 Homo sapi AL078633 Human DNA AJ278250 Homo sapi E39817 Novel guano AR559681 Acmiente	E39806 Novel grano AR559670 Sequence AY009371 Rattus no E39809 Novel guano	AR559673 Sequence AR104216 Sequence BD086300 G protein AR104215 Sequence
10 AF267537 10 AF237919 6 AR104204 6 BD086288 10 AY009370	6 AR559692 10 AY142145 10 AY044153 10 AB015646	6 AR104203 6 BD086287 6 BD189979 10 AF267538	9 HSA296652 9 HS1005F21 9 HSA278250 6 E39817 6 APK 50681	6 E39806 6 ARSS9670 10 AY009371 6 E39809	6 AR559673 6 AR104216 6 BD086300 6 AR104215
1339 1338 1338 1338	1953 2067 2483 2761	3244 3244 18105 1249	3993 100976 3993 1893		2700 1086 1086 2218
80.1 80.1 80.1 80.1	80.1.1.1 80.1.1.1 80.1.1.1	80.1 80.1 80.0 69.9	69 1.069 1.069 6.069	67.4	67.4 63.8 63.8 63.8
1083.8 1069.2 1069.2 1069.2	1069.2 1069.2 1069.2	1069.2 1069.2 1067.6 932.6	923 923 921.4 919.8	88 88 88 89 89 89 89 89 89 89 89 89 89 8	899.2 852.2 852.2 852.2
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	255 26 27 29	29 30 31		9 6 6 4 9 6 6 4 4	4 4 4 4 2 6 4 3

ALIGNMENTS

QY 181 GCCGACTCGGCACCAGAACAACTTCTTCTGCTCACCTCGCCATCTCCGAC 240 Db 181 GCCGACTCGGCACCCGGAACAACTTCTTCTTCTGCTCAACCTCGCATCTCGAC 240 Qy 241 TTCCTGGTCGGCGCCTTCTGCATCCCAACTACTACCTAACGTGAGGCGGCTGG 300

8 6 8 6 8 6 8

8 8 ठे a ò 셤 ò g ð g ò 엄 ò g δ g ò g ઠ 엄 ò QQ ò g ò ద ð a ò g

```
PAT 17-JUL-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A61P25/16,
PC A61P25/18, A61P25/22, A61P25/24, A61P25/28, C07K14/705, C07K16/28, PC A61P25/18, A61P25/28, C07K14/705, C07K16/28, PC C12N1/15, C12N1/21, C12N5/10, C12P21/02, C12Q1/02, C12Q1/68 PC C12N1/19, C12N1/30, C0 C12N1/30, C0 C12N1/30, Artificial Sequence: CDNA CC Description of Artificial Sequence: CDNA CC Description of Artificial Sequence: CDNA FF Key Location/Qualifiers CONTROL 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ц
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ы
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121 ATGGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181 GCCGACTCGAGCCTCCGCACCCAGAACTTCTTCCTGCTCACCTCGCCATCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCCGACTCGAGCCTCCGCACCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241 TTCCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                                                                                                                           other sequences; artificial sequences.

1 (bases 1 to 1335)
Labenberg,T.W., Erlander,M., Huber,A. and Piatei,J.

1 solated DNA encoding human H3 histemine receptor
Patent: JP 2002556049-A 6 20-AUG-2002;

ORTHO MCNEIL PHARMACEUTICAL INC
OS Artificial Sequence
PN JP 2002526049-A/6
PD 20-AUG-2002
PP 07-OCT-1998 JP 2000573370
PT ITMOTHY W LABENBERG,MARK ERLANDER,ARNE HUBER,JIYAXASYURY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C12N15/09, A61K38/00, A61K45/00, A61P3/04, A61P3/10, A61P9/06,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 ATGGAGCGCGCCGCCCGACGGGCCGCTGAACGCTTCGGGGGGCGCTGGCGGGGGGGCGATGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 GCGGCGGCGGCGCGCGCGCGCTTCTCCGCAGCCTGGACCGCGGTGCTGGCCGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%; Score 1335; DB 6; Length 1335; 100.0%; Pred. No. 7.7e-178;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ce 1. .1335
/organism='Artificial Sequence'
Location/Qualifiers
                                                                                                                       histamine receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1. .1335 | Organism="synthetic construct" | //organism="synthetic DNA" | //mol_type="genomic DNA" | //db_xref="reaxon:32630"
                                                                                                   DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Mismatches
                                                                                                 BD235873
Isolated DNA encoding human H3 h
                                                                                                                                             BD235873
BD235873.1 GI:33045643
JP 2002526049-A/6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.08;
                                                                                                                                                                                                                   synthetic construct
synthetic construct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches 1335; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PIATEI
PC C1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local
                                               RESULT 2
BD235873
LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                               AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1081 GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCCATACACGCTGCTGATGATCATC 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAGAGGGGCTCCAAGCCGTCGGCGTCCTCGGCCTGGAGAAGAGCGCATGAAGATGGTG 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1021 receasaserreacecaseserrressersiereressasasasasasersecaasiesers 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    960
                                                    360
                                                                                                 360
                                                                                                                                                420
                                                                                                                                                                                             420
                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                                                                                                                       900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        900
TICCICGICGGCGCCTICTGCAICCCACTGIAIGIACCCIACGIGCIGACAGGCCGCTGG 300
                                                                          AGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                541 AGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         721 GGCCCCGGAGCCCCTCCCGAGGCCCAGCCCTCACCACCCCCACCGCCTGCTGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCTCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1261 CGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGGTCCCTG
                                                                                                                                             TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                                         TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCGGGGGGTC
                                                                                                                                                                                                                                            TCATACCGGGCCCAGCAGGGTGACACGCGGCGGCGAGTGCGGAAGATGCTGGTGTGG
                                                                                                                                                                                                                                                                                                                                        GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Aceectrocaccordeagractriaceccorroadegracorrorace
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCCGTAGGCGCTGAGGCCGGGGGAGCGACCCTCGGGGGTGGCGGTGGGGGGCGGCTCCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             961. AAGAGGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCGCTGGAGAAGCGCATGAAGATGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCCATACACGCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGGGCCTTCACCAAGCTGCTCTGCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG
                                                 ACCTTCGGCCGGGCCTCTGCAAGCTGTGGTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                     Grecredetrecretraceaccaeccarcereaccreseagracererereses
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTTCGAGAGGCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGCCCCGAGCCCCTCCCGAGGCCCAGCCCTCACCACCCCCCACCCCCTGGCTGCTGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAGCACTGCTGGAAG 1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAGCACTGCTGGAAG 1335
                                               301
                                                                                              301
                                                                                                                                             361
                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1321
                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1081
                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               661
```

ORGANISM Unknown. REFERENCE 1 (bases 1 to 1335) AUTHORS Lovenberg, T.W., Erlander, M., Huvar, A. and Pyati, J. TITLE DNA encoding a human histamine receptor of the H3 subtype JOURNAL Patent: US 6413143-A 6 02-JUL-2002; FEATURES 1.1335 Jource 1.1335 Anol_type="unknown" Amol_type="genomic DNA"	Query Match 100.0%; Score 1335; DB 6; Length 1335; Best Local Similarity 100.0%; Pred. No. 7.7e-178; Matches 1335; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	Qy 1 ATGAGCGCGCGCCGCCCGACGCCGCTGAACGCTTCGGGGGCGCTGGCGGGGGGGG	. Qy 61 GCGGCGGGGGGGGGCGCGCGCGCGCGCGCGGGCCTGGACCGCGGGTGCTGGCCGGGTC 120	QY 121 ATGGGGCTGCTCATCGTGGCCACGGTGCTGGCCACGCCTCGTG 180	Oy 181 GCCGACTCCGCACCCAGAACAACTTCTTCCTGCTCGACCTCGCCATCCCGAC 240	QY 241 TTCCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCTACGTGCTGACAGGCCGCTGG 300 LIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Qy 301 ACCTTCGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCC 360 bb 301 ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCC 360	Oy 361 TCTGCCTTCAACATCGTGCTCATCAGCTACCGCTTCCTGTCGGTCACCCGAGCGGTC 420	QY 421 TCATACCGGCCCCAGCAGGCGCGGCGGCGGCAGATGCTGGTGGG 480	Oy 481 GTGCTGGCGTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC 540	Oy 541 AGCTCCACCAAGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC 600	OY 601 ACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGGGTCACCTTCTTTAACCTCAGC 660	Oy 661 ATCTACCTGAACATCCAGAGCGCACCCGCCTCGGGTGGATGGGGCTCGAGAGGCAGCC 720	Oy 721 GGCCCCGAGCCCCTCCCGAGGCCCAGCCCTCACCACCCCCACCGCCTGGCTGG	781 TGCTGGCAGAAGGGCACGGGGAGGCCATGCCGCTGCACAGGTATGGGGTGGGT	Db 781 TGCTGGCAGAAGGGCACGGGGAGGCCATGCCGCTGCAGGTATGGGGTGGGT
Qy 421 TCATACCGGGCCCAGCAGGGGGGGGGGGGGGGGGGGGGG	QY 601 ACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC 660 Db 601 ACGGCTTCCACCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC 660	Qy 661 ATCTACCTGAACATCCAGAGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCC 720 Db 661 ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCC 720	Qy 721 GGCCCCGAGCCCCTCCCCGAGGCCCAGCCCTCACCCCCCCC	QY 781 TGCTGGCACAAQGGGCACGGGAGGCCATGCCGCTGCAAGGTATGGGGTGGGT	QY 841 GCCGTAGGCGCTGAGGCCGGGAGGCGACCCTCGGGGGTCGCGGTGGGGGCTCCCGTG 900 Db 841 GCCGTAGGCGCTGAGGCCGGGGGGCGCCTCGGGGGGGGGG	OY 901 GCTTCACCCACCTCCAGCTCCGGAGCTCTCAGGGGCACTGAGAGGCCGCGCTCACTC 960 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Oy 961 AAGAGGGCTCCAAGCCGTCGGCGTCCTCGCTCGCTGGAAAGCGCATGAAGATGGTG 1020	Oy 1021 TCCCAGAGTTCACCCAGGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG 1080	OY 1081 GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGCCCCATACACGCTGGTGATGATCATC 1140	OY 1141 CGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTC 1200	OY 1201 CTGTGGGCCAACTCGGCTGTCAACCTGTCCTCTACCCTCTGTGCCACCAGGTTCCGC 1260	OY 1261 CGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAATCCAGCCCCACAGGTCCCTG 1320	Qy 1321 GAGCACTGCTGGAAG 1335 Db 1321 GAGCACTGCTGGAAG 1335	AR21719 Sequenc AR21719		

	241 TICCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCTACGTGCTGACAGGCCGCTGG 300	301 ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCC 360	361 TCTGCCTTCAACATCGTGCTCATCAGCTACCGCTTCCTGTCGGTCACCCGAGCGGTC 420	421 TCATACCGGGCCCAGCAGGTGACACGCGGCGGCAGTGCGGAAGATGCTGCTGGTGGG 480	481 GTGCTGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC 540	541 AGCTCCATCCCCGAGGCCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC 600	601 ACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTAACCTCAGC 660	661 ATCTACCTGAACATCCAGAGGGGCACCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCC 720	721 GGCCCCGAGCCCCTCCCGAGGCCTAACCACCCCACGCCTGGCTGG	781 TGCTGGCAGAAGGGGCACGGGGGGGCATGCCGCTGCAGGTATGGGGTGGGT	841 GCCGTAGGCGCTGAGGCCGGGGAGCCCTCGGGGGGGGGG	901 GCTTCACCCACCTCCAGCTCCGCCACCTCCAGGGGCACTGAGAGGCCGCGCTCACTC 960	961 AAGAGGGCTCCAAGCCGTCGGCGTCCTCGGCTCGAGAAGCGCATGAAGATGGTG 1020 	1021 TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG 1080	1081 GCCGTCATCGTGAGCATCTTTGGGCTCCTGCGCCCCATACACGCTGCTGATGATCATC 1140	1141 CGGGCGCCTGCCATGGCCACTGCGTCCTGACTACTGGTACGAAACCTCCTTCTGGCTC 1200	1201 CTGTGGGCCAACTCGGCTGTCACCCTGTCCTCTACCCTCTGTGCCACCACGAGCTTCCGC 1260	1261 CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG 1320
qq	\(\frac{1}{2} \)	S da	S S	S S	\$ A	oy O	상 원	oy Op	\$ g	S S	ço Qo	9 9	\$ A	ò a	à g	& 4	& 8 8	ò
	Qy 901 GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGCACTGAGAGGCCGCGCTCACTC 960 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Oy 961 AAGAGGGCTCCAAGCCGTCGCCTCGCTCGCTGGAGAAGCGCATGAAGATGGTG 1020	Qy 1021 TCCCAGAGCTTCACCCAGGCTTTCGGCTGTCTCGGGAACAGGAAAGTGGCCAAGTCGCTG 1080	Qy 1081 GCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGGTGATGATCATC 1140	Qy 1141 CGGCCGCCTGCCATGGCCACTGGTCCCTGACTACGAAACCTCCTTCTGGCTC 1200	Qy 1201 CTGTGGGCCAACTCGGCTGTCAACCCTGTACCCTCTGTGCCACCAGGGTTCCGC 1260	Oy 1261 CGGGCCTTCACCAAGCTGCTCTGCCCCAAGAAGCTCAAAATCCAGCCCCAAGAGCTCCCTG 1320	Qy 1321 GAGCACTGCAGGAGG 1335 Db 1321 GAGCACTGCAGGAGG 1335	т. 4	LUCUS AK135/32 LUCUS AK135/32 DEFINITION Sequence 5 from patent US 6136559. ACCESSION AR135732 VERSION AR135732.1 G1:14476404	EIWOKDS OURCE ORGANISM	REFERENCE I (bases 1 to 2699) AUTHORS Lovenberg, T.W. Erlander, M., Huvar, A. and Pyati, J. TITLE DNA encoding as human histamine receptor of the H3 subtype JOHRNAL Patent: US 613559-A 5 24-0CT-2000;	FEATURES LOCATION QUALITIES BOURCE 12699 /organism="unknown" /mol_type="unassigned DNA" /mol_type="unassigned DNA"	y Match Local Similarity 100.0%; Score 1335; DB 6; Length 2699; Local Similarity 100.0%; Pred. No. 6.7e-178;	GCCCCCCCCCCCCCCCCCCCCTCCCCCCCCCCCCCCCC		121 ATGCCCTCCTCATCGTGCCACGCTCCTGGCAACGCTGGACCGCGGTGTGTGGCCGCTCTCGTG	Db 419 ATGGCGCTGCTCATCGTGGCCACGGTGGTGGGGGAACGGGGTGGTCATGCTCGCCTTCGTG 478 . Oy 181 GCCGACTCGGCACCCAGGAACAACTTCTTCCTGGTCAACCTCGCCATCTCCGAC 240

361 TCTGCCTTCAACATCGTGCTCAACACGACGGCTTCCTGTCGGTCACCCGAGCGGTC 420	719 †CATACCGGCCCAGCAGGGCGCGCGGCGGCGGGAAGATGCTGCTGGTGGG 778 481 GTGCTGGCCTTCCTGCTGTACGGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC 540	AGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC AGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC ACGCTTCCACCTGGAGTTCTTTACGCCCTTCCTTCAGGGTTCCTTTTAACCTCAGG ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGTGGATGGGGTCGAGAGGCAGCC ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGTGGATGGGGGTCGAAGGCAGCC ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTTGGATGGGTCGAACGCAGCCCAGCCCAGAGGCAGCCAGC	Georgia Geor	CCGTAGGCGCTGAGGCGGCGGCGCCCTCGGGGGGGGGGG	961 AAGAGGGCTCCAAGCCGTCGGCGTCCTCGCTCGCTGGAGAAGCGCATGAAGATGGTG 1020	TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG GCCGTCATCGTGAGCTTTTGGGCTCTGCTGGGGCCCCATACACGCTGCTGATCATC	1141 CHICATTGGCTCCTTGACTTGGTACGGAACCTTCTTGTGCTC	1261 CGGGCCTTCACCAGGCTCTGCCCCCGGAGCTCAAATCCAGCCCCACAGCTCCCTG 1320	T 6 194 AR217194 2699 bp DNA linear PAT 25-SEP-2002
8 8 8	8 6 8 6 8	3 & 8 & 8	1 & B & 1	2 4 4 4 4	è 8 è	20 00 00	6 6 6 6	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	RESULT 6 AR217194 LOCUS
1559 CGGCCTTCACCAAGCTGCTCTGCCCCAGAAGCTCAAAATCCAGCCCCACAGGCTCCTG 1618 1321 GAGCACTGCTGGAAG 1335 1619 GAGCACTGCTGGAAG 1633	RESULT 5 BD235872 LOCUS BD235872 BD235872 DEFINITION Isolated DNA encoding human H3 histamine receptor. ACCESSION BD235872 ACCESSION BD235872 GT:33045642 KEYWORDS JP 2002525049-A/5. SOURCE SO		PD 20-AUG-2002 PP 07-0CT-1998 JP 2000573370 PI TIMOTHY W LABENBERG, MARK ERLANDER, ARNE HUBER, JIYAYASYURY PI PIATEI PIATEI PC C12N1S/09, A61K38/00, A61K45/00, A61P3/10, A61P9/06, PC A61P25/16, PC A61P25/16, PC A61P25/16,	PC C12N1/19,C12N1/21,C12N5/10,C12P21/02,C12Q1/02,C12Q1/68 PC ,GO1N33/15,GO1N33/50, PC C12N15/00,A61X37/02,C12N5/00 CC Description of Arrificial Sequence: CDNA FH Key FT Source 1. 2699 FT Location/Qualificial Sequence'. Frocation/Qualificial Sequence'.	<pre>source 12699 /organism="synthetic construct" /mol type="genomic DNA" /db_xref="taxon:32630"</pre>	Query Match 100.0%; Score 1335; DB 6; Length 2699; Best Local Similarity 100.0%; Pred. No. 6.7e-178; Conservative 0; Mismatches 0; Indels 0; Gaps 0; Matches 1335; Conservative 0; Mismatches 0; Indels 0; Gaps 0; 1 ATGGAGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG	61 GCGGCGCGCGCGCGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTTC 120	GCCGACTCGACCTCCGCACCGAAACTTCTTCCTGCTCAACCTCCCCTCTCCGACTCGACTCGACTCGACTCGACTCGACTCGACTCGACTCGACTCGACTCGACTCGACTCGACTCGACTCGACTCCGACTCGACTCCGACTCGACTCCGACTCCGACTCCGACTCCGACTCCAAACTTCTTCCTTC	301 ACCTTCGGCGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGCTGCACCTCC 360

φ

```
1258
                                                                                                                                                                                      1020
                                                                                                                                                                                                                      1318
                                                                                                                                                                                                                                                    1080
                                                                                                                                                                                                                                                                                 1378
                                                                                                                                                                                                                                                                                                                  1140
                                                                                                                                                                                                                                                                                                                                                 1438
                                                                                                                                                                                                                                                                                                                                                                               1200
                                                                                                                                                                                                                                                                                                                                                                                                              1498
                                                                                                                                                                                                                                                                                                                                                                                                                                             1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1558
                             1138
                                                                                           1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PAT 26-NOV-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                              900
                                                                                                                           960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                1199 GCTTCACCCACCTCCAGCTCCGGCAGCTCCTGAGGGGCACTGAGAGGCCGCGCTCACTC
                                                                                                                                                                                                        GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                                                                                                               CGGGCCGCCTGCCATGCGTCCTGACTACTGGTACGAAACCTCCTTCTGGCTC
                                                                                                                                                                                                                                                                                                                                                                                                    1439 CGGGCCGCCTGCCATGGGCCACTGGGTCCCTGACTACTGGTACGAAACCTCCTTCTGGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1499 CTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCTCTGTGCCACCACAGCTTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1559 CGGCCTTCACCAAGCTGCTCCCCCAGAAGCTCAAAATCCAGCCCCACAGCCTCCTG
                               AAGAGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCGCTGGAGAGCGCATGAAGATGGTG
                                                                                                                                                                                                                                                      TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG
                                                                                                                                                                                                                                                                        TCCCAGAGCTTCACCCAGGCCTTTCGCCTGTCTCGGGAAAGTGGCCAAAGTCGCTG
                                                                                                                                                                                                                                                                                                                 GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG
                                                                                                                            GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCGCTCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Burmer,G.C., Roush,C.L. and Brown,J.P.
Antiganic peptides, such as for G protein-coupled receptors (GPCRs), antibodies thereto, and systems for identifying sucantigenic peptides
Patent: WO 02061087-A 548 08-AUG-2002;
Lifespan Biosciences, Inc. (US)
Location/Qualifiers
1. .2699
//mol_type="unassigned DNA"
//mol_type="unassigned DNA"
//db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 2699;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%; Score 1335; DB 6;
100.0%; Pred. No. 6.7e-178;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 ATGGAGCGCGCCGCCGGCGGCCGCTGAACGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AX549263
Sequence 548 from Patent WO02061087.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AX549263.1 GI:25813942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAGCACTGCTGGAAG 1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1619 GAGCACTGCTGGAAG 1633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity
Matches 1335; Conser
                                                                                                                                                                                                                        1259
                                                                                                                                                                                                                                                                                     1319
                                                                                                                                                                                                                                                                                                                                                 1379
                                                                                                                                                                                                                                                                                                                                                                                 1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                299
                                                               841
                                                                                                                                                                                         961
                                                                                                                                                                                                                                                       1021
                                                                                                                                                                                                                                                                                                                      1081
                                                                                                                                                                                                                                                                                                                                                                                                                                               1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1321
                                                                                                                            901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 7
AX549263
LOCUS
                                                                                                                                                  g
                                                                                                                                                                                                                      엄
                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                      셤
                                                                                                                                                                                       ò
                                                                                                                                                                                                                                               õ
                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                              Š
                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCC 1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGCCCCAAGCCCCTCCCGAGGCCCAGCCCTCACCCACCCCCCACCGCTGCTGGGGC 1078
                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                358
                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                               418
                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   780
                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGCCCTCCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCCGACTCGAGCCTCCGCACCCAGAACATCTTCCTGCTCAACCTCGCCATCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTCCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCATACCGGGCCCAGCAGGTGACACGCGGCGGCAGTGCGGGAAGATGCTGGTGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                AridaAccidececececeaececececreaAccerrececececececececearece
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCCGACTCGAGCCTCCGCACCCCAGACTTCTTCCTGCTCAACCTCGCCATCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTCCTCGTCGCCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCATACCGGGCCCAGCAGGGTGACACGCGGCGGGCAGTGCGGGAAGATGCTGGTGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Acedetrecaceregaarrerracecerrecreaecereaecrrerraacereaec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATCTACCTGAACATCCAGAGGGGGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGCCCCGAGCCCCTCCCGAGGCCCCAGCCCTCACCACCCCCCACCGCCTGCTGGGGGC
                                                                                                                                                                                                                                                                                                                                   GCGGCGCGCGCGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                               GCGGCGGCGGCGCGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC
                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                          1 (bases 1 to 2699)
Lovenberg, T.W., Erlander, M., Huvar, A. and Pyati, J.
DNA encoding a human histamine receptor of the H3 subtype
Patent: US 6413143-A 5 02-JUL-2002;
Location/Qualifiers
                                                                                                                                                                                                                                                                                                    .;
0
                                                                                                                                                                                                                                                                        Length 2699;
                                                                                                                                                                                                                                                                                                    IndelB
                                                                                                                                                                                                                                                                   100.0%; Score 1335; DB 6;
100.0%; Pred. No. 6.7e-178;
ative 0; Mismatches 0;
   6413743
                                                                                                                                                                                                        /organism="unknown"
/wol_type="genomic DNA"
5 from patent US
Sequence 5 from patent
AR217194
AR217194.1 GI:23316634
                                                                                                                                                                                                                                                                                                  Matches 1335; Conservative
                                                                                                                                                                                         .2699
                                                                             Unknown.
Unclassified.
                                                                                                                                                                                                                                                                                     Similarity
                                                      .
Unknown.
                                                                                                                                                                                                                                                                                                                                                                                                                               359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                   ч
                                                                                                                                                                                                                                                                                                                                                                299
                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                      Query Match
Best Local 8
                                                                                                                                                                                           source
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                             ORGANISM
                                                                                                         REFERENCE
AUTHORS
TITLE
JOURNAL
FEATURES
                                                                                                                                                                                                                                     ORIGIN
```

g

ò

g

ò

g

à

셤

ò

g

ò

g ò 임 ò ద ò g à g ò g

ò

g

ò

ò

g

ે

셤

ઠે

셤

8

g

⋧

ð

a

8 6 8

ઠ

셤

ઠે

g

ઠે

8 è

ઠે

```
299 . .1636
/codon_start=1
/product="histamine H3 receptor"
/product="histamine H3 receptor"
/product="histamine H3 receptor"
/protein_id="AAD38151.1"
/db_xref="G1:5031291"
/franslation="WERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALWALL
/translation="WERAPPDGPLNASGALAGDBAAAGGARGFSAAWTAVLAALWALL
/translation="WERAPPDGPLNASGALAGDBAAAGGARGFSAAWTAVLAGWTF
GRGLCKLMLVVDYLLCTSASANIVIJISYDRFLSVTRAVSYRAQOGDTRRAVRKWILVW
VLAFLLYGPAILSWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFN
GRGLCKLMLVVDYLCTSASGASSTRATERFNAYGGWGRGRAMPLHRYG
VGAAAVGAAGGATUGGGGGGGSVASPTSSSGSSSRGTERPRSLKRGSKPSASSASLE
KRWGWVSQSPTQRRRLSRVASLAVIVSIFGLCWAPYTLLMIIRAACHGHCVPDY
WYETSFWLLWANSAVNPVLYYPLCHHSFRRAFTKLLCPQKLKIQPHSSLEHCWR"
                                 1498
                                                                    1260
                                                                                                                                                                                                                                                                                                                                     AF140538 2699 bp mRNA linear PRI 10-JUN-1999
Homo sapiens histamine H3 receptor mRNA, complete cds.
AF140538
                                                                                                                                                                             CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG 1618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCGGCGGCGGGCGCGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    359 GCGGCGGCGGCGGCGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTC 418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 2699)
Lovenberg, T.W., Roland, B.L., Wilson, S.J., Jiang, X., Pyati, J., Huvar, A., Jackson, M.R. and Erlander, M.G. Cloning and functional expression of the human histamine H3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1439 CGGGCCGCCTGCCATGGGCCACTGCGTCCCTGACTACTGGTACGAACCTCCTTCTGGGTC
                                                                                       CIGIGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCACCAGCTTCCGC
                                                                                                                                         CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG
CGGCCCCCTGCCATGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTC
                                                                    CTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCACAGCTTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Johnson PRI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 (bases 1 to 2699)
Lovenberg, T.W., Roland, B.R., Wilson, S.J., Jiang, X., Pyati, J.,
Huvar, A., Jackson, M.R. and Erlander, M.E.
Direct Submission
Submitted (GS-APR-1999) Molecular Pharmacology, RW Johnson PR
3535 General Atomics Ct, San Diego, CA 92121, USA
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 2699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%; Score 1335; DB 9;
100.0%; Pred. No. 6.7e-178;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mol. Pharmacol. 55 (6), 1101-1107 (1999)
99278519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAGCACTGCTGGAAG 1335
                                                                                                                                                                                                                                                  1619 GAGCACTGCTGGAAG 1633
                                                                                                                                                                                                                                                                                                                                                                                             AF140538.1 GI:5031290
                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 100.
Best Local Similarity 100.
Matches 1335; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10347254
                                                                                                        1499
                                                                                                                                           1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
 1141
                                                                      1201
                                                                                                                                                                               1559
                                                                                                                                                                                                                1321
                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                      RESULT 8
AF140538
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORIGIN
                                                                                             g
                                                                                                                                                                           В
                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                        g
                                                                    ð
                                                                                                                                    Š
                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  960
                                                    418
                                                                                       180
                                                                                                                       478
                                                                                                                                                            240
                                                                                                                                                                                               538
                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                    598
                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                           658
                                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                718
                                                                                                                                                                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             900
                                                                                                                                                                               GCCGACTCGAGCCTCCGCACACCACTTCTTCCTGCTCAACCTCGACCTCCGAC
                                                                                                                                                                                                                                                   ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCTTCACCCCACCTCCAGCTCCGGCAGCTCCTCGAGGGCACTGAGAGGCCGCGCTCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAGAGGGGCTCCAAGCCGTCGTCCTCGGCTCCTCGCTGGAGAAGCGCATGAAGATGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCGACTCGAGCCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC
                                                                                                                                                                                                                                                                                                                          ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                              TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                 TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCGGAGGGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCATACCGGGCCCAGCAGGGTGACACGCGGCGGCAGTGCGGGAAGATGCTGCTGGTGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCATACCGGGCCCAGCAGGTGACACGCGGGCAGTGCGGGAAGATGCTGCTGGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGCTCCATCCCCGAGGCCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Acedernicaeceriesaentennaececentecreaeceneaecenentenaeceneaec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGCTGGCAGAAGGGGCACGGGGAGGCCATGCCGCTGCACAGGTATGGGGTGAGGTGAGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCCGTAGGCGCTGAGGCCGGGGAGGCGACCCTCGGGGGTGGCGGTGGGGGGCGGCTCCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCTCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAGAGGGCTCCAAGCCGTCGGCGTCCTCGCCTCGCTGGAGAAGCGCATGAAGATGGTG
                                                    ATGGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                         Areacecrecrearcareaceaceaceaceaceacecrecreareareacecreareacere
                                                                                                                                                                                                                                   TTCCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGCCCCGAGCCCCCTCCCGAGGCCCAGCCCTCACCACCCCCCACCGCCTGGCTGCTGCTGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1081
                                                                                                                       419
                                                                                                                                                                                             479
                                                                                                                                                                                                                                                                    539
                                                                                                                                                                                                                                                                                                                                           599
                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        961
                                                    359
                                                                                     121
                                                                                                                                                          181
                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                629
                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                61
```

a

8

8 & 8

a

δ

ઠે

ያ ጵ

8 6 8

```
1260
                          1558
                                                                                1618
                                                                                                                                                                                                          AF321910 1338 bp mRNA linear PRI 24-MAY-2002
Homo sapiens histamine H3 receptor isoform 1 (HRH3) mRNA, complete
cds, alternatively spliced.
AF321910.1 GI:18461380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /trānslation="WERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALLMALL
IVATVLGNALVMLAFVADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTF
GRGLCKLMLVVDYLLCTSSAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VLAPLLYGPAILSWEYLSGGSSIPECHCYABFFYNWYFLITASTLEFFTPFLSVTFFN
LSTYLNIORRTRLALDGAREAAGFEPPEAQPSPPPPGGWGWOKGHGEAMPLHRYG
VGAAVGABAGEATLGGGGGGSVASPTSSGGSSKGTERPRSLKRGSKPSASSALE
KRMGWYGGFTQRFRLSRDRKVAKSLAVIVSIFGLCWAPYTLLMITRAACHGHCVPDY
WYETSFWLLMANSAVNPVLYPLCHHSFRRAFTKLLCPQKLKIQPHSSLEHCWK"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Direct Submission
Submitted (17-NOV-2000) Target Validation, ACADIA Pharmaceuticals,
3911 Sorrento Valley Blvd., San Diego, CA 92121, USA
Location/Qualifiers
                                                                                                                                                                                                                                                                                                        Homo sapiens

Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

Memalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

Wellendorph, P., Goodman, M.W., Burstein, E.S., Nash, N.R., Brann, M.R.

Molecular Cloning and Characterization of Functionally Distinct Isoforms of the Human Histamine H3 Receptor

Neuropharmacology (2002) In press

Chases I to 1338)

Wellendorph, P., Goodman, M.W., Burstein, E.S., Nash, N.R., Brann, M.R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                      CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG
             CTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACACAGCTTCCGC
                                                      CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 ATGGAGGGGGCGCCGCCCGACGGCCGCTGAACGCTTCGGGGGGCGCTGGCGGGGGCGATGCG
CTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCACAGCTTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 1338;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /producc="histamine H3 receptor isoform 1"
/protein id="AAL71911.1"
/db_xref="GI:18461381"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 1333.4; DB 9;
Pred. No. 1.3e-177;
0; Mismatches 1; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /gene="HRH3"
/note="alternatively spliced"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /gene="HRH3"
/note="silent polymorphism"
/replace="c"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /tissue_type="hippocampus"
1. 1338
/gene="HRH3"
1. 1338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1. .1338
/organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /codon_start=1
                                                                                                            1335
                                                                                                                           1619 GAGCACTGCTGGAAG 1633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99.9%;
larity 99.9%;
Conservative (
                                                                                                                                                                                                                                                                                              Homo sapiens (human)
                                                                                                            GAGCACTGCTGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
Matches 1334; Conserv
                        1499 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        variation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               H
                                                      1261
                                                                                  1559
                                                                                                              1321
1201
                                                                                                                                                                                                                                                    ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                                                                                                                                                                             LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gene
                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
                                                                                                                                                                                 RESULT 9
AF321910
                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                               TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                   셤
                                                                             g
                                                                                                         8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1498
             180
                                       478
                                                                   240
                                                                                              538
                                                                                                                          300
                                                                                                                                                     598
                                                                                                                                                                                 360
                                                                                                                                                                                                             658
                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                    718
                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                          778
                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                838
                                                                                                                                                                                                                                                                                                                                                                                                            900
                                                                                                                                                                                                                                                                                                                                                                                                                                       868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       960
                                                                                                                                                                                                                                      AGCTCCATCCCCGAGGGCCACTGCTATAGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAGAGGGGTCCAAGCCGTCGGCGTCCTCGCTCGCTGGAGAAGCGCATGAAGATGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCCCAGAGCTTCACCCAGGCCTTTCGCCTGTCTCGGGAAAGTGGCCAAGTCGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTC
                           GCGACTCGAGCCTCCGCACCCAGAACATCTTCCTGCTCACCTCGCCATCTCCCGAC
                                                                                                                                       GIGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGAGGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCGCTGGAGAAGCGCATGAAGATGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTC
                                                                  GCCGACTCGAGCCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC
                                                                                                                          TTCCTCGTCGCCCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                 ACCTTCGGCCGGGCCCTCTGCAAGCTGTGGCTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                              TCATACCGGGCCCAGCAGGGTGACACGCGGGGGGGGTGCTGCTGCTGGTGG
                                                                                                                                                                                                                                                                                                                         TCATACCGGGCCCAGCAGGTGACACGCGGGGGGGCAGTGCGGGAAGATGCTGCTGTGG
                                                                                                                                                                                                                                                                                                                                                                                GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                            AGCTCCATCCCCGAGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGCCCCGAGCCCCTCCCGAGGCCCAGCCCTCACCACCCCCACCGCCTGGCTGCTGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCTCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1439
                                                                                                                                                                                                                                                                                                                         719
                                                                                                                                                                                                                                                                                                                                                                                                                                       839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1081
                                      419
                                                                  181
                                                                                            479
                                                                                                                        241
                                                                                                                                                     539
                                                                                                                                                                                 301
                                                                                                                                                                                                            599
                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                  629
                                                                                                                                                                                                                                                                                                                                                                               779
                                                                                                                                                                                                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1141
           121
                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                      481
                                   g
                                                                                      В
                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                δ
                                                                                                              ð
                                                                                                                                                                              ò
                                                                                                                                                                                                    g
                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                              δ
```

ö

g

8

õ

a

8 8 8 8 8

ઠે

```
1260
                                                                                                                                                                                                          1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LS TYLNIORRITE BANDER BANDER PRESENTATION OF THE BLOCK OF THE BANDER BAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AB019000 1362 bp mRNA linear PRI 25-OCT-2000 Homo sapiens mRNA for G-protein coupled receptor, complete cds. AB019000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IVATVIGNALVMIAFVADSSIRTQNNFFILNIAISDFLVGAFCIPLYVPYVLTGRWTF
GRGICKLMIVVDYLLCTSSAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVW
VLAFILYGPAILSWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     translation="MERAPPDGPLNASGALAGEAAAAGGARGFSAAWTAVLAALMALL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 GCGGCGGCGCGCGCGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /moi_type="mRNA"
/db_xref="taxon:9606"
/db_xref="taxon:9606"
/tissue_type="hypothalamus and hippocampus"
/note="i-103:derived from hypothalamus, 104-1362:derived
from hippocampus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
Takimura, T., Itadani, H. and Ohta, M.
Takimura, T., Itadani, H. and Ohta, M.
Takimura, T., Itadani, H. and Ohta, M.
Submitted (20-007-1998) Tetsuo Takimura, Banyu Pharmaceutical
Co., LTD, Tsukuba Research Institute; Okubo 3, Tsukuba, Ibaraki
300-2611, Japan (B-mail:takmratt@banyu.co.jp,
Tel:+81-298-77-2006(Gx.2251), Fax:+81-298-77-2027)
                                                                                                                               CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATGGAGCGCGCCCCCGACGGCCCCTGAACGCTTCGGGGGCGCTGGGCGCGATGCG
                                                                                                      CTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCACAGCTTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 99.8%; Score 1332.4; DB 9; Length 1362; Best Local Similarity 99.9%; Pred. No. 1.8e-177; Matches 1333; Conservative 0; Mismatches 1; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /codon_start=1
/product="G-protein coupled receptor"
/protein id="BABA7030.1"
/db xref="G1:11022653"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ohta, M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1. .1362
/organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Itadani, H., Takimura, T. and Ohta
Novel G-protein coupled receptor
Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     G-protein coupled receptor.
Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AB019000.1 GI:11022652
                                                                                                                                                                                                                                                                                                                 GAGCACTGCTGGAAG 1335
                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (sites)
     1141
                                                      1141
                                                                                                                                                       1201
                                                                                                                                                                                                                                                           1261
                                                                                                                                                                                                                                                                                                                                                                  1321
                                                                                                      1201
                                                                                                                                                                                                          1261
                                                                                                                                                                                                                                                                                                                 1321
                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 10
AB019000
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORIGIN
                                           셤
                                                                                   8 8
                                                                                                                                                                                                                                              염. 상
                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCCATACACGCTGCTGATGATCATC 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                               180
                                                                                                                                                                               180
                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             960
                                                      GCGGCGGCGCGCGCGCGCGCTTCTCGGCACCTGGACCGCGGTGCTGGCCGCGCTC
                                                                                                                                                          ATGGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                                                                                                                              GCCGACTCGAGCCTCCGCACCCAGAACAACTTCCTTCCTGCTCAACCTCGCCATCTCCCGAC
                                                                                                                                                                                                                                                                                                                                                                       GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATCTACCTGAACATCCAGAGGGGCACCCGCCTCCGGCTGGATGGGGCTCGAGGGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGCCCCGAGCCCCCTCCCCGAGGCCCAGCCCTCACCACCCCCCACCGCCTGGCTGCTGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCCGTAGGCGCTGAGGCCGGGGAGGCGACCCTCGGGGGTGGCGGTGGGGGGCGGTTCCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCTCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGCACTGAGAGGCCGCGCTCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAGAGGGGCTCCAAGCCGTCGGCGTCCTCGGCCTGGAGAAGAGCGCATGAAGATGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAGAGGGGCTCCAAGCCGTCGTCCTCGGCCTCGCTGGAGAAGCGCATGAAGATGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATGGCGCTGCTCATCGTGGCCACGGTGCTGGCCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                                                                                                   GCCGACTCGAGCCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC
                                                                                                                                                                                                                                                                                                                                         TTCCTCGTCGCCCCTTCTCCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCTGCCTTCAACATCGTGCTCATCAGCTACGACGGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rcreccricaacarcerecrearcaecraceaccecrirecrereseacceacceac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCATACCGGGCCCAGCAGGGTGACACGCGGCGGCAGTGCGGAAGATGCTGGTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            rcaraccececcaecaecaecaececececececaereceaaaarecreereeree
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GFGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       541 Adcriccariccidadedecacriccrariscidadericricaracaacriccraric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGCCCCGAGCCCCTCCCGAGGCCCAGCCCTCACCACCCCCCACCGCCTGGTGGTGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1021
                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              196
                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1021
                                                                         61
                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1081
                        61
```

g

g

ò

ò

g

ద

ð

ద

ò

g

ઠે

셤

ઠે

셤

ò

g

ò

ઠ

g

යි යි

ð

g

8 6 8 6 8

ò

셤

ò

d

ò

g

ò

g

ò

ò

g ò g ે 셤 ò g ò 임 ઠે g õ ద ò Q à g ò g ð g

```
1260
                                                                          1320
                                                                                                                                                                                                                                            2050 bp DNA linear PAT 31-JAN-2002 triphospate (GTP)-binding protein-conjugate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5/10,
CI2P21/02,CI2Q1/02,G01N33/15,G01N33/566,C12N15/00,C12N5/00 CC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Я
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     510
                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. I (bases I to 2050)
I taya, K., Takimura, T., Nakamura, T., Kobayashi, M., Tana, K., Hidaka, Y. and Ota, M.
Novel guanosine triphospate (GTP)-binding protein-conjugate receptor protein
Patent: JP 200189171-A 19 11-JUL-2000;
BANYU PHARMACEUT CO LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JP 2000189111-A/19
11-JUL-2000
25-MAY-1999 JP 1999145661
25-DEC-1998 WO PCTJP9805967
KEI ITAXA TETSUO TAKIMURA, TAKAO NAKAMURA, MASAHIKO KOBAYASHI,
KENICHI TANAKA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           YUSUKE HIDAKA, MASAKI OTA
CI2N15/09, A61K45/00, CO7K14/705, C12N1/15, C12N1/19, C12N1/21,
                                                                                           CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG
                                 1201 CTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCACGCTTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCGGCGGCGGGGGCGCGCTTCTCGGCAGCCTGGACCGGCGGTGCTGGCCGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATGGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCCGACTCGAGCCTCCGCACCCAGAACAACTTCCTTCCTGCTCAACCTCGCCATCTCCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                451 GCCGACTCGAGCTCCGCACCCAGAACTTCTTCCTGCTCAACCTCGACCACCTCCGAC
                                                                          CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGGAGCGCGCCCCCGACGGCCCGCTGAACGCTTCGGGGGCGCTGGCGGCGATGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 2050;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 1332.4; DB 6; Length
Pred. No. 1.6e-177;
0; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (271). .(1629)
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1. .2050
/organism="Homo sapiens"
/mol type="genomic DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99.8%;
                                                                                                                                                                                                                                                                                                        GI:18627105
                                                                                                                                      1321 GAGCACTGCTGGAA 1334
                                                                                                                                                      JP 2000189171-A/19.
Homo sapiens (human)
Homo sapiens
                                                                                                                                                                                                                                            E39824
Novel guanosine tr
receptor protein.
E39824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 99.9
Matches 1333; Conservative
                                                                                                                                                                                                                                                                                                       E39824.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       표보
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          391
                                                                           1261
                                                                                                        1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
               1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                       ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                              LOCUS
                                                                                                                                                                                                              RESULT 11
E39824
                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORIGIN
                                     셤
                                                                                                셤
                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               අ
                                                                          8
                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                              180
                                                          180
                                                                                          240
                                                                                                                    240
                                                                                                                                                  300
                                                                                                                                                                                300
                                                                                                                                                                                                              360
                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                                                                                                           900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           960
                                                                                                                                                                                                                                TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCGGGGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCTTCACCCACCTCCAGCTCCGGCAGCTCCTGAGGGCACTGAGAGGCCGCGCTCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAGAGGGGTCCAAGCCGTCGGCGTCCTCGGCTCGCTGGAGAAGCGCATGAAGATGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCCGTCATCGTGAGCATCTTTGGGCCTCTGCTGGGCCCCCATACACGCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCCATACACGCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTC
GCGGCGGCGGGGCGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTC
                                                                                                                                                                         TTCCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                      TCATACCGGGCCCAGCAGGTGACACGCGGCGGCAGTGCGGAAGATGCTGCTGGTGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                 GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCGGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAGAGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCGCAGAGCGCCATGAAGATGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG
                              ATGGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTG
                                               ATGGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTTGGTCATGCTTCGTC
                                                                                        GCCGACTCGAGCCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC
                                                                                                           GCCGACTCGAGCCTCCGCACCAGAACTTCTTCCTGCTCAACCTCGCCATCTCCCGAC
                                                                                                                                                                                                              ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                          TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                                                                                                                                                                                                     GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGCTCCATCCCCGAGGCCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACGCCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATCTACCTGAACATCCAGAGGCCCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGCCCCGAGCCCCTCCCGAGGCCCAGCCCTCACCACCCCCCACGCCTGGTGCTGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCTCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1141
                                                                                      181
                                                                                                                    181
                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1021
                            121
                                                        121
                                                                                                                                                                                241
                                                                                                                                                                                                              301
                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      196
                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                     421
```

8 &

g

Š

8 S

ò

ద

셤

ò

g

Š

8 & 8

ઠે

a

ઠે

g

ò

g

õ

g

ઠે

ઠે

8 & 8

g

ઠે

8 6 8 6 8

ò

```
PAT 08-OCT-2004
                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        330
                                                                                                                                                                                                                                                                                                                                                                                                                                         GCGGCGGCGGGCGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      870
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99
                                                                                                                                                                                   1 (bases 1 to 2050)
Itadani, H., Takimura, T., Nakamura, T., Kobayashi, M., Tanaka, K.-I.,
Hidaka, Y. and Ohta, M.
Guanosine triphosphate (GTP) binding protein-coupled receptor
                                                                                                                                                                                                                                                                                                                                                                                        60
                                                                                                                                                                                                                                                                                                                                                                                                      ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGGCTGGTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCATACCGGGCCCAGCAGGGTGACACGCGGCGGCAGTGCGGAAGATGCTGCTGCTGGTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTGCTTGCCTGCTGTACGGACCACCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Trecrestesecertrerareceartecarteraretacetacetsereseceseces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                        ATGGAGCGCGCCGCCCGACGGCCGCTGAACGCTTCGGGGGGCGCTGGCGGGGGGATGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCATACCGGGCCCAGCAGGGTGACACGCGGCGGCAGTGCGGAAGATGCTGCTGGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                     Query Match 99.8%; Score 1332.4; DB 6; Length 2050; Best Local Similarity 99.9%; Pred. No. 1.6e-177; Matches 1333; Conservative. 0; Mismatches 1; Indels 0;
                                                                                     linear
                                                                                     DNA
                                                                                                                                                                                                                                 Patent: US 6750322-A 21 15-JUN-2004,
Location/Qualifiers
1. .2050
/organism="unknown"
/mol_type="genomic DNA"
                                                                                    2050 bp
US 6750322.
                                                                                                 patent
                                                                                                                       AR559688.1 GI:53969744
              1591 GAGCACTGCTGGAA 1604
GAGCACTGCTGGAA 1334
                                                                                                from
                                                                                   AR559688
Sequence 21 f
AR559688
                                                                                                                                                                        Unclassified.
                                                                                                                                              Unknown
                                                                                                                                                              Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  331
 1321
                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                            source
                                                          RESULT 12
AR559688
LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                           ORGANISM
                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                AUTHORS
                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                        TITLE
                                                                                                                                                                                                                                                                                                               ORIGIN
                셤
                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   상
유
 ઠે
                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8 G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1320
                                                                                                                                                                                                                                                                                                                                                                                                                                        1050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCCGTAGGCGCTGAGGCCGGGGAGGCGACCCTCGGGGGGTGGCGGTGGGGGGCGCCCCCTCGTG 1170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1590
                                                                                                                                                                                                                                                             600
                                                                                                                                                                                                                                                                                                                                                                                                                 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 840
            300
                                    570
                                                            360
                                                                                   630
                                                                                                           420
                                                                                                                                    690
                                                                                                                                                             480
                                                                                                                                                                                    750
                                                                                                                                                                                                             540
                                                                                                                                                                                                                                     810
                                                                                                                                                                                                                                                                                     870
                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                       930
                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                        990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  960
           ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGGTAGTGGACTACCTGCTGCTGTGCACCTCC
                                                                                                                       TCTGCCTTCAACATCGTGCTCATCAGCTACGACGGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                                          TCATACCGGGCCCAGCAGGTGACACGCGGGCGGCAGTGCGGAAGATGCTGCTGGTGTG
                                                                                                                                                                                                          GTGCTGGCTTCCTGCTGTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                           AGCTCCATCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                          GGCCCCGAGCCCCCTCCCGAGGCCCAGCCCTCACCACCCCCACCGCCTGGCTGCTGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGCTGGCAGAAGGGGCACGGGGAGGCCATGCCCCTGCACAGGTATGGGGTGGGGTGAGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCTTCACCCACCTCCAGCTCCGGCAGCTCCTGAGGGGCACTGAGAGGCCGCGCTCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAGAGGGCTCCAAGCCGTCGGCGTCCTCGGCTCGCTGGAGAAGCGCATGAAGATGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCCCAGAGGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTGGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTGTGGGCCAACTCGGCTGTCAACCCTGTACCCTCTGTGCCACCACAGCTTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                              GGCCCCGAGCCCCTCCCGAGGCCCAGCCCTCACCACCCCCACCGCCTGGCTGCTGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tectescagaagegecacegegageccateccectecacataregegreegraagecc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCGTAGGCGCTGAGGCCGGGGAGGCGACCCTCGGGGGTGGCGGTGGGGGGCGCGCTCCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGAGGGCTCCAAGCCGTCGGCGTCCTCGGCTCGCTGGAGAAGCGCATGAAGATGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGGGCCGCCTGCCATGGCCATGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTC
                                                           ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                          TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                           TCATACCGGGCCCAGCAGGGTGACACGCGGCGGCCAGTGCGGAAGATGCTGCTGGTGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCTCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1051
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1531
                                   511
                                                                                   571
                                                                                                                                                                                                                                   751
                                                                                                                                                                                                                                                             541
                                                                                                                                                                                                                                                                                     811
                                                                                                                                                                                                                                                                                                                                     871
                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                        931
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1261
                                                          301
                                                                                                           361
                                                                                                                                 631
                                                                                                                                                          421
                                                                                                                                                                                    691
                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1471
            241
                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 841
```

```
VLAFILYGPAILSWEYLSGGSSIPEGHCYAEFFYNWYFLITAATLEFFTFFLSVTFFN
LSIYLMIORRTRLRLDGARRAAGFEPPEAQPSPPPGGWGCWOKHGEAMPLHRYG
VGBAAVGAEAGEATLGGGGGGSVASPPFSSGGSSKGTERPRSLKRGSKPSASSASLE
KRMKWYSGSTQRFRESRDRKYAKSLAVIVSIFGLCWAPYTLLMITAAACHGHCVPDY
WYETTSFWLLWANSAVNPVLYPLCHHSFRRAFTKLLCPQKLKIQPHSSLEHCWKKMKKK
                                                                                                                                                                                                                                                                                                                                                                                                                   /translation="merappdgplnasgalageaaaaggargfsaawtavlaalmall
Ivatvlgnalvmlafvadsslrtqnnpfllnlaisdflugafciplyvpyvltgrwtf
Grglcklwlvvdyllctssafnivlisydrflsvtravsyraqqgdtrravrkmlvw
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       661 ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCC 720
Co.,Ltd., Biomedical Labolatories; Okubo 3, Tsukuba, Ibaraki
300-2611, Japan (E-mail:itadnihr@banyu.co.jp, Tel:81-298-77-2000,
Fax:81-298-77-2027)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCGGGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       811 AGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCTCCTATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    31 GCGGCGGCGGCGCGCGCGCCTTCTCGGCAGCCTGGACCGCGGGTGCTGGCCGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  991 ATGGGGCTGCTCATCGTGGCCACGGGCTGGGCACGCGCTGGTCATGCTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCCGACTCGAGCCTCCGCACACACACTTCTTCCTGCTCAACCTCGACCACCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCCTCGTCGCCCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTCCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Grecinecciric crecine raceda con a consecue de consecue con consecue de consecu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         971 ACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCGGCGGCGCGCGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATGGCGCTGCTCATCGTGGCCACGGTGCTGGCCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCATACCGGGCCCAGCAGGTGACACGCGGCGGCAGTGCGGGAAGATGCTGGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2050;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                        /product="histamine H3 receptor HH3R"
/protein_id="BAB20090.1"
/db_xref="GI:12248410"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 1332.4; DB 9;
Pred. No. 1.6e-177;
0; Mismatches 1;
                                                                                                                                  1. .2050
/organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
271. .1632
                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                              /codon start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99.8%;
larity 99.9%;
Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 1333; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                           source
                                                                                                                                                                                                                                                                 CDS
                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1260
                                                                                                                                                                                                                                                          1050
                                                                                                                                                                                                                                                                                                                                                                                      1110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRI 23-JAN-2001 complete cds.
      ACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC 930
                                                                          720
                                                                                                                                     990
                                                                                                                                                                                                                                                                                                                           840
                                                                                                                                                                                                                                                                                                                                                                                                                                                    900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tanaka, K.
human histamine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCCCAGAGCTTCACCCAGGCCTTTCGGCTGTCTCGGGAAAGTGGCCAAGTCGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACACGCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAACCTCCTTCTGGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG
                                                                                                              GGCCCCGAGCCCCCTCCCGAGGCCCAGCCCTCACCACCCCCCACCCGCCTGGCTGCTGGGGC
                                                                                                                                                                                                                                                                                                                                                                                      recrescada a de de concese de contra 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCCGTAGGCGCTGAGGCCGAGGCGACCCTCGGGGGTGGCGGTGGGGGGCGCTCCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCCATACACGCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTGTGGGCCAACTCGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCACCACGCTTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGTGGGCCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACACACGCTTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGGCCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG
                                                                    ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGGCAGCC
                                                                                                                                                                                               TGCTGGCAGAGGGGCACGGGGAGGCCATGCCGCTGCACAGGTATGGGGTGAGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCCGTAGGCGCTGAGGCCGGGGAGGCGACCCTCGGGGGGTGGCGGTGGGGGCGGCTCCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCGCTCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAGAGGGCTCCAAGCCGTCGGCGTCCTCGGCTGGAGAAGCGCATGAAGATGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Itadani,H.
Direct Submission
Submitted (30-JUN-2000) Hiraku Itadani, Banyu Pharmaceutical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Biophys. Res. Commun. 279 (2), 615-620 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    אנו האואה 2050 bp mRNA linear
Homo sapiens mRNA for histamine H3 receptor HH3R,
AB045369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nakamura, T., Itadani, H., Hidaka, Y., Ohta, M. and Molecular cloning and characterization of a new receptor, HH4R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AB045369.1 GI:12248409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAGCACTGCTGGAA 1334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAGCACTGCTGGAA 1604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (bases 1 to 2050)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (sites)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    receptor,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11118334
                                                                                                                                                                                                                                                                                                                                                                                      1051
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1531
                                                                                                                                                                                               721
                                                                                                                                                                                                                                                          991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1261
                                                                       661
                                                                                                                                  931
                                                                                                                                                                                                                                                                                                                        781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1591
                                                                                                                                                                                                                                                                                                                                                                                                                                                    841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE
PUBMED
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 13
AB045369
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                           8
                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                ద
                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
```

ö

120

330

9

180 450 240 510 300

570 360 420

690 480 750

630

870

9

930

540

ATGGAGCGCGCCCGACGGCCGCTGAACGCTTCGGGGCGCTGGCGGGCG	riccredicaedeccriciaedricechaidhighacethachaedhachaeachaeachaeachaeachaeachaeac	421 TCATACCGGGCCAGCAGGGGGGGGGGCAGTGCGGAAGATGCTGCTGGTGGG 480 481 GTGCTGGCCTTCCTGCTGTACGGACCAGCATCCTGACTGGGAGTACCTGTCCGGGGG 540 481 GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGAGTACCTGTCCGGGGGC 540 481 GTGCTGGCCTTCCTGCTGTTACGGACCAGCCATCCTGAGCTGGAGTACCTGTCCGGGGGC 540 541 AGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC 600 541 AGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC 600 601 AGCTCCATCCCCGGAGTTCTTTACGCCCTTCCTCAGGTACTTTCATCAGG 660 601 ACGGCTTCCACCTGGAGTTCTTTAACGCCCTTCCTCAGGTACTTTCATCAGG 660 601 ACGGCTTCCACCTGGAGTTCTTTAACGCCCTTCCTCAGGTCACTTCATTAACCTCAGG 660	661 ATCTACCTGAACATCCAGAGGGCACCCGCCTCGGCTGGATGGGGCAGGC 720 [961 AAGAGGGCTCCAAGCCGTCCTCGGCCTCGTGGAGAAGCGAATGAAGATGGTG 1020
8 8 8 8 8 8 8	8 8 8 8 8	8 8 8 8 8 8	\$ 8 8 8	8 6 8 6	88888
	10.21 AGAGGGGTCCAAGCCGTCGGCGTCTCGGCCTCGGGGAAGCGCATGAAGATGGTG 12.31 AGAGGGGGTCCAAGCCGTCGGCGTCTCGGCCTCGGTGGTGGTGGTGGTGGTGTGTGTGTGTGTGTGTGTGTGT	CGGGCCGCCTGCCATGGCCACTGCGTCCTGGTACTGGTACGAAACCTCCTTCTGGCTC [132 159 14 02 TION TION N N DS	SOURCE Unknown. ORGANISM Unknown. URCLassified. REFERENCE 1 (bases 1 to 1335) AUTHORS Goodearl, A.D.J. and Glucksmann, M.Alexandra. TITLE Methods for detecting nucleic acid molecules encoding a member of the muscarinic family of receptors JOURNAL Patent: US 609345-A 3 25-JUL-2000; FRATURES	<pre>gource 11335 /organism="unknown" /mol_type="unassigned DNA" ORIGIN Query Match 99.8%; Score 1331.8; DB 6; Length 1335; Best Local Similarity 99.9%; Pred. No. 2.2e-177; Matches 1333; Conservative 0; Mismatches 2; Indels 0; Gaps 0;</pre>

		CCCGAGGGCCACTGCTAGCGAGTTCTTCTACAACTGGTACTTCTCCTCTC	661 ATCTACCTGAACATCCAGAGGCGCACCGGCTGGGATGGGGCTCGGAGGGGCGCC 720	1	ANGAGGGCTCCAAGCCGTCGTCCTCGGCCTCGCTGGAGAAGCGCATGAAGATGGTG 102 AAGAGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCACTGGAGAAGCGCATGAAGATGGTG 102 TCCCAGAGCTTCACCCAGCGTTTCGGCTGTTCTCTGGAGAAGTGGCAAGTCGCTG 108	ACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGT AGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGA AGCATCTTTGGGCTCTGCTGGGCCCCCATACACGCTGCTGTATGI AGCATCTTTGGGCTCTGTGGGCCCCCATACAGCTTGTTGTTGT CATGGCCACTGGTCCTTGGTTGGTACGAAACCTCCTTCT CATGGCCACTGGTCCTGACTACTGGTACGAAACCTCCTTCT CATGGCCACTGGGTCCCTGACTACTGGTACGAAACCTCCTTCT	1201 CTGTGGGCCAACTCGGCTGTCACCTCTACCCTCTGTGCCACCACAGCTTCCGC 1260
8 2 8 2 8 8 8	\$ 8 \$ 6	6 6 6 6 6	6 6 6	6 6 6 6 6	8 8 8	8 & 8 & 8	8 8 8
	·	LOCUS BD086286 LOCUS LOCUS DEFINITION G protein-coupled receptor and utilization thereof. ACCESSION BD086286 ACCESSION BD086286.1 GI:22631896 KEYWORDS JP 2001525174-A/2. SOURCE Unidentified ORGANISM unclassified.	REFERENCE 1 (bases 1 to 1335) AUTHORS Goodearl, A.D.J., Glucksmann, A.M., Xie, M. and Distefano, P. AUTHORS Goodearl, A.D.J., Glucksmann, A.M., Xie, M. and Distefano, P. TITLE G protein-coupled receptor and utilization thereof JOURNAL Patent: JP 2001525174-A 2 11-DEC-2001; MILLENNIUM PHARMACEUTICALS INC COMMENT OS Unidentified PN JP 2001525174-A/2 PD 11-DEC-2001	PF 04-DEC-1999 US 2000523346 PR 04-DEC-1999 US 08/98590,17-MAR-1998 US 09/042780 PI ANDREW D J GOODEARL, ALEXANDRA M GLUCKSMANN, MICHAEL XIE, PETER PI DISTREANO PC CLAN15/09, COTX14/705, COTX16/28, CLAN5/10, C12P21/02, C12Q1/68// PC (C12P21/02, C12R1:91), C12N15/00, C12N5/10, C12P21/02, C12Q1/68// PC (C12P21/02, C12R1:91), C12N15/00, C12N5/10, C12P21/02, C12Q1/68// PC Strandedness: Single; CC Strandedness: Single; CC TOPOLOGY: Linear; CC TOPOLOGY: Linear; Location/Qualifiers FEATURES Location/Qualifiers Location/Qualifiers	source 11335 /organism="unidentified" /mol_type="genomic DNA" /db_xref="taxon:32644" ORIGIN Query Match 99.8%; Score 1331.8; DB 6; Length 1335;	Best Local Similarity 99.9%; Pred. No. 2.2e-177; Indels 0; Gaps	Db 61 GCGGCGGCGGCGGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCTC 120 Qy 121 ATGGCGCTGCTCATCGTGGCGCGCTGCTGGGCAACGCCTGGTCATGCTCGCGTTCGTG 180

Mon-Jun 6 09:33:44 2005

1261 GGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG 1320 B & G

Search completed: June 2, 2005, 10:53:04 Job time: 5782.82 secs

THIS PAGE BLANK (USPTO)

```
GenCore version 5.1.6 (c) 1993 - 2005 Compugen Ltd.
                 Copyright
```

- nucleic search, using sw model OM nucleic

June 2, 2005, 04:43:59; Search time 712.507 Seconds (without alignments) 11091.610 Million cell updates/sec Run on:

US-10-727-021-6

1 atggagcgcgcgccgccga......ccctggagcactgctggaag 1335 Perfect score: Sequence:

Scoring table:

IDENTITY_NUC Gapop 10.0 , Gapext 1.0

4390206 seqs, 2959870667 residues

Searched:

Total number of hits satisfying chosen parameters:

seq length: 0 seq length: 200000000 Minimum DB E Maximum DB E Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database :

N_Geneseq_16Dec04:*

geneseqn1980s:* geneseqn1990s:* geneseqn2000s:* geneseqn2001as:

geneseqn2003ds:* geneseqn2004as:* geneseqn2003cs: geneseqn2003as:* geneseqn2003bs:* geneseqn2001bs:* genesegn2002bs:

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

geneseqn2004bs:

Add22860 Human ful Add89179 Human uro Adr31456 Human his Ado29966 Human GPC Aax84572 Human G-p Aax02886 Human mAC Aa15976 Human wil Aax02885 Human mid Aax02885 Human G p Acc59395 Human his Add22861 Human his Adr31457 Human his Complete Human his Human his Human his Aaa09061 Human his Aac62365 Complete Abn84882 Human his Aaa09062 Human his Description Abz42533 Hu Acc59394 Hu Add22860 H SUMMARIES AAC62365 ABN84882 AAL59976 AAX02885 AAX59167 AAX02886 AAA09062 AAA70637 B Length Query 00 Score 1332.4 1331.8 1331.8 1331.8 1335 1335 1335 1335 Result

Aah44572 Human mus	Abx11852 Human cDN	Aah44573 Human mus	Aas76867 DNA encod	Aa159978 Human H3	Aal59982 Human H3	Aas76868 DNA encod	Aal59979 Human H3	Aas62391 cDNA sequ	Aals9983 Human H3	Aah44575 Rat musca	Aaa70638 Rat G-pro	Ado30256 Mouse GPC	Abt42301 Toxicity	Aax59168 Rat G pro	Aah44574 Rat musca	Abx11853 Rat cDNA	Adf66834 Murine hi	Abz82337 Mouse his	Aal59985 Human H3	Aax84582 G-protein	Aaa70648 Human G-p	Aax84570 G-protein	Aaa70639 Rat G-pro	Aaa70640 Rat G-pro
AAH44572	ABX11852	AAH44573	AAS76867	AAL59978	AAL59982	AAS76868	AAL59979	AAS62391	AAL59983	AAH44575	AAA70638	2 ADO30256	0 ABT42301	AAX59168	AAH44574	ABX11853	2 ADF66834	ABZ82337	AAL59985	AAX84582	AAA70648	AAX84570	AAA70639	AAA70640
2689 2	2689 8	1334 2	2576 5	1359 9	1293 9	2145 5	1311 9	2173 6	1251 9	1338 2	1953 3	2483 1	2761 1	3244 2	3244 2	3244 8	1338 1	18105 8	1203 9	1893 2	1893 3	1239 2	1239 3	2700 3
8.66	8.66	7.66	98.9	92.7	90.4	86.3	85.5	84.2	83.3	80.1	80.1	80.1	80.1	80.1	80.1	80.1	80.0	0	76.1	68.8	68.9	67.4	67.4	67.4
1331.8	1331.8	1330.8	1320.8	1237.8	1206.6	1152.4	1141.8	1124.4	1112.6	1069.2	1069.2	1069.2	1069.2	1069.2	1069.2	1069.2	1067.6	1067.6	1016.6	919.8	919.8	899.2	899.2	899.2
21	22	23	24	25	56	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

histamine H3 receptor; biogenic amine receptor homologue; ss. Human histamine H3 receptor open reading frame. Pyati J; Lovenberg TW, Erlander M, Huvar A, AAA09062 standard; cDNA; 1335 BP. (ORTH) ORTHO-MCNEIL PHARM INC. 98WO-US021090. 98WO-US021090. (first entry) WO200020011-A1. 07-OCT-1998; Homo sapiens. 07-OCT-1998; 10-AUG-2000 13-APR-2000. AAA09062; RESULT 1

WPI; 2000-303632/26. P-PSDB; AAY92218 polynucleotides and polypeptides used of receptor activity. Novel human histamine H3 receptor in methods to identify modulators

Claim 2; Fig 2; 54pp; English.

contains the seven conserved hydrophobic domains and specific residues conserved in biogenic amine receptors. The human histamine H3 receptor polynucleotides and polypeptides are used in methods to screen for modulators of receptor activity (claimed). Such agonists and antagonists may prove useful as research tools or may be, used as therapeutics to treat disorders directly or indirectly involving histamine receptors (claimed). The characterization of the polynucleotide is useful for forensic analysis, diagnostic applications, and epidemiological studies The cDNA encodes the human histamine H3 receptor. The polypeptide

X S

g

ઠે

g

ò

g

ò

g

ò

à

qq

ò

ያ ያ

8 8 8 8

8 6 8 6 8

중 염

8 8 8

g

8 6 8

ò

```
1080
                                                         1080
                                                                                                                                             1200
                                                                                                                                                                         1200
                                                                                                                                                                                                      1260
                                                                                                                                                                                                                                                                1320
                                                                                                                                                                                                                                   1260
961 AAGAGGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCGCTGAAAAAGATGAAGATGGTG 1020
                                                                                                                                                                                                                                                                                           1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The present sequence encodes a human histamine H3 receptor. The histamine H3 receptor DNA molecules are useful for isolating homologues of receptor, identifying and isolating genomic equivalents of receptor, and identifying, detecting or isolating mutant forms of the receptor. The DNA molecules are also useful in gene therapy for the treatment of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Novel DNA molecules useful in gene therapy for the treatment of inflammation or allergy, or for encoding a human histamine H3 receptor and identifying histamine receptor modulators that are useful as
                                                                                                                                                                                                                                                              TCCCAGAGCTTCACCCCAGGCCTTTCGGCTGTCTCGGGAAAGTGGCCAAGTCGCTG
                                                                                                                                                               CGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTC
                                                                                      GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGCCCCCATACACGCTGCTGATGATCATC
                                                                                                     GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATC
                                                                                                                                              CGGGCCGCCTGCCATGGCCACTGCTCCTGATACTGGTACGAAACCTCCTTCTGGCTC
                                                                                                                                                                                                        CTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCACCACGGTTCCGC
                              TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human; histamine H3 receptor; inflammation; allergy; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cDNA encoding a human histamine H3 receptor polypeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Huvar A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "histamine H3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Lovenberg TW, Pyati J, Erlander M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
1. .1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             diagnostic agents.
                                                                                                                                                                                                                                                                                                                                                                                                                           BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 1; Fig 2; 25pp; English.
                                                                                                                                                                                                                                                                                                                          GAGCACTGCTGGAAG 1335
                                                                                                                                                                                                                                                                                                                                                   chechercechad 1335
                                                                                                                                                                                                                                                                                                                                                                                                                            AAC62366 standard; cDNA; 1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      98US-00167354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   98US-00167354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /*tag= a
/product=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PHARM CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2001-023168/03.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P-PSDB; AAB30627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           therapeutic and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (ORTH ) ORTHO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      07-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   07-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US6136559-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         24-OCT-2000
                                                         1021
                                                                                                                                                                                                                                                                                                                                                   1321
                                                                                    1081
                                                                                                                                              1141
                                                                                                                                                                           1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAC62366;
                            1021
                                                                                                                   1081
                                                                                                                                                                                                        1201
                                                                                                                                                                                                                                   1201
                                                                                                                                                                                                                                                                                                                          1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Key
                                                                                                                                                                                                                                                                                                                                                                                                                AAC62366
                                                                                                                                                                                                                                                                                                                                                                                                 RESULT
                                                     g
                                                                                                           셤
                                                                                                                                                                     g
                                                                                                                                                                                                                            a
a
                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                        ð
                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                a
                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAGAGGGCTCCAAGCCGTCGTCCTCGGCCTCGCTGGAGAGCGCATGAAGATGGTG 1020
                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       960
                                                                                                                                                             120
                                                                                                                                                                                         120
                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  960
                                                                                                     9
                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCGGCGGCGGCGCGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTC
                                                                                                                                                                                                                                                                                              GCCGACTCGAGCCTCCGCACCCCAGAACTTCTTCCTGCTCAACCTCGCCATCTCCCGAC
                                                                                                                                                                                                                                                                                                                                                        TTCCTCGTCGGCGCCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACGGCCCCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGGCTGGTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCGGGGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGCCCCGAGCCCCCTCCCGAGGCCCAGCCCTCACCACCCCCCACCGCCTGGCTGCTGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCGTAGGCGCTGAGGCCGGGGAGCGACCCTCGGGGGTGGCGGTGGCGGCGGCGGCGCTCCGTG
                                                                                                                       ATGGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                                                                                                                 Areacecracarcareaccacearecreescaacecreercarecreercare
                                                                                                                                                                                                                                                                                                                                      TTCCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                              ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCATACCGGGCCCAGCAGGGTGACACGCGGCGGGCAGTGCGGAAGATGCTGCTGGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCATACCGGGCCCCAGCAGGGTGACACGCGGCGGCAGCAGGAGGAGATGCTGCTGGTGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCAGCGTCACCTTCTTTAACCTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Arctaccigaacarccagaggggggcgcccccccccgcrggargggggcrcgagggggcgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGCTGGCAGAAGGGGCACGGGGAGGCCATGCCGCTGCACAGGTATGGGGTGAGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCCGTAGGCGCTGAGGCCGGGGAGGCGACCCTCGGGGGTGGCGGTGGGGGCGGCTCCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCTCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATGGAGCGCGCCGCCCGACGGCCGCTGAACGCTTCGGGGGGCCTGGCGGCGCGATGCG
                                                                                                                                                                                         GOGGOGGOGGOGGOGGOTTCTCGGCAGCCTGGACCGCGGGGTGCTGGCCGCGCTC
                                                                                                                                                                                                                                                                              GCCGACTCGAGCCTCCGCACCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGCCCCGAGCCCCTCCCGAGGCCCAGCCTTCACCACCCCCCACCGCCTGGCTGCTGGGGGC
                                                                        ;
0
                                       100.0%; Score 1335; DB 3; Length 1335; 100.0%; Pred. No. 3.3e-217; cive 0; Mismatches 0; Indels 0;
             T; 0 U; 0 Other;
               C; 416 G; 251
             BP; 192 A; 476
                                                                    tches 1335; Conservative
                                                      Local Similarity
             Sequence 1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  901
                                                                                                                                                             19
                                                                                                                                                                                         61
                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               196
                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             721
                                          Query Match
```

8X888

8 4 8 4 8 4 8 4

ద

è

g

ò

6 B 6 B 6 B 6 B

ઠે

8 8 8

g

ઠે

8 8 8 8 8

```
1080
                                                                                                                                                    1080
                                                                                                                                                                                              1140
                                                                                                                                                                                                                                        1140
                                                                                                                                                                                                                                                                                  1200
                                                                                                                                                                                                                                                                                                                          1200
                                                                                                                                                                                                                                                                                                                                                                     1260
                                                                                                                                                                                                                                                                                                                                                                                                               1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                       1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human, histamine H3 receptor, receptor modulator, gene, 89; agonist;
nootropic, neuroprotective, cerebroprotective, cardiant, antiasthmatic;
immunomodulator, gastrointestinal; antiallergic, antidiabetic;
antiinflammatory; hypotensive; antiarrhythmic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein
                                                                                                                                       TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG
                                                                    961 AAGAGGGCTCCAAGCCGTCGGCGTCCTCGGCCTGGAGAAAAAGCGCATGAAGATGGTG
                                                                                                            TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG
                                                                                                                                                                                              GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCCATACACGCTGCTGATGATCATC
                                                                                                                                                                                                                       GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCCATACACGCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                  CGGGCCGCCTGCCATGGCCACTGCGTCCCTACTGGTACGAAACCTCCTTCTGGCTC
                                                                                                                                                                                                                                                                                                         CGGCCCGCCTGCCATGCGCCCCTGCCCTGACTGGTACGAAACCTCCTTCTGGCTC
                                                                                                                                                                                                                                                                                                                                                                     CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG
                                                                                                                                                                                                                                                                                                                                                                                               CTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGGCCACACACGCTTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Identifying agonists of recombinant human histamine H3 receptor ractivity, useful for diagnosing and treating H3 receptor-related disorders, such as nervous system disorders, asthma, allergy, hypertension and diabetes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human histamine H3 receptor coding sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
1. 1325
/*tag= a
/product= "histamine H3 r
/partial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          note= "no stop
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (ORTH ) ORTHO-MCNEIL PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAGCACTGCTGGAAG 1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAGCACTGCTGGAAG 1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACC59395 standard; cDNA; 1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15-NOV-2001; 2001WO-US045313.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15-NOV-2001; 2001WO-US045313.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2003-457595/43.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABP59931
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO2003044059-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Lovenberg T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               28-AUG-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30-MAY-2003
                                                                                                                                                    1021
                                                                                                                                                                                              1081
                                                                                                                                                                                                                                        1081
                                                                                                                                                                                                                                                                                  1141
                                                                                                                                                                                                                                                                                                                          1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                         1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1321
                                                                                                            1021
                                                                                                                                                                                                                                                                                                                                                                     1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1321
                            961
                                                                                                                                                                                                                                                                                                                                                                                                               1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 3
ACC59395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Key
                                                     셤
                                                                                             8
                                                                                                                                       g
                                                                                                                                                                                     6 B 6
                                                                                                                                                                                                                                                                                                           8 S
                                                                                                                                                                                                                                                                                                                                                                                                 ద
                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   THE CONTRACT OF THE CONTRACT O
                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    840
                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             960
                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                               ATGGAGCGCGCCCCCCGACGGCCGCTGAACGCTTCGGGGGCGCTGGCGGCGGATGCG
                                                                                                                                                                                                                                                                                                                                            ATGCCGCTGCTCATCGTGGCCACGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGCTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCATACCGGGCCCAGCAGGGGGAGCACGCGGCGGCAGTGCGGAAGATGCTGCTGGTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCCGTAGGCGCTGAGGCCGGGGGAGCGACCCTCGGGGGTGGCGGTGGGGGGCGCTCCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCCTCCACTC
                                                                                                                                                                                                                1 ATGGAGCGCCCCCCCCCCACGCCCCCTGAACGCTTCCGGGGGCGCTGGCGGCGATGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCCGACTCGAGCCTCCGCACCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTCCTCGTCGCGCCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTCCTCGTCGGCGCCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGTAGTGGACTACCTGCTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCATACCGGGCCCCAGCAGGGTGACACGCGGCGGCAGTGCGGGAAGATGCTGCTGGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GIGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGCTCCATCCCCGAGGCCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAAACCTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCTCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCC
                                                                                                                                                                          Gaps
inflammation or allergies. The human histamine H3 receptor protein i
useful in identifying modulators of the human histamine H3 receptor,
which in turn are useful as therapeutic and diagnostic agents
                                                                                                                                                                          ö
                                                                                                                            100.0%; Score 1335; DB 4; Length 1335; 100.0%; Pred. No. 3.3e-217; ive 0; Mismatches 0; Indels 0;
                                                                                      Sequence 1335 BP; 192 A; 476 C; 416 G; 251 T; 0 U; 0 Other;
                                                                                                                                                  Best Local Similarity 100.
Matches 1335; Conservative
                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           901
                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        841
```

```
1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1080
                                                                                                                                                                                                                                                                                                                                                                                                                                             1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1320
                               780
                                                                                                                                  840
                                                                                                                                                                                     900
                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                       960
                                                                                                                                                                                                                                                                                                                                          960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human; ss; Histamine H3 receptor; GPCR; G protein-coupled receptor; depression; anxiety; schizophrenia; Parkinson's disease; obesity; hypertension; Tourette's syndrome; sexual dysfunction; drug addiction; drug abuse; cognitive disorder; Alzheimer's disease; obsessive-compulsive behaviour; panic attack; pain; eating disorder; anorexis, cardiovascular disorder; cerebrovascular disorder; constipation; arthythmia; ulcer; asthma; allergy; inflammation; prostate dysfunction.
GGCCCCGAGCCCCTCCCGAGGCCCACCCCCACCGCCCACCGCCTGGCTGCTGGGGC
                                                                                                             AAGAGGGCTCCAAGCCGTCGGCGTCCTCGCCTCGCTGGAGGGCGCATGAAGATGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                          AAGAGGGCTCCAAGCCGTCGGCGTCCTCGGCCTGGAGAAGCGCATGAAGATGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1021 TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1081 GCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAACCTCCTTCTGGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG
                                                                                                                                                                                     GCCGTAGGCGCTGAGGCCGGGGAGGCGACCCTCGGGGGTGGCGGTGGCGGTGGGGGCGGCTCCGTG
                                                                                                                                                                                                                                                                                          GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCGCTCACTC
                                                                                                                                                                                                                                                                                                               GCTTCACCCACCTCCAGCTCCGGCAGCTCCTGAGGGGCACTGAGAGGCCGCGCTCCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCCATACACGCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGGGCCGCCTGCCATGGCTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTGTGGGCCAACTCGGCTGTCAACCCTGTACCCTCTGTGCCACACAGCTTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human histamine H3 receptor open reading frame.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note= "No stop codon shown"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Histamine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADD22861 standard; cDNA; 1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAGCACTGCTGGAAG 1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /*tag= a
/product= "
/partial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US6437100-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 15-JAN-2004
                                                                                                                                                                                                                                       841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1141
                                                                                  781
                                                                                                                                  781
                                                                                                                                                                                     841
                                                                                                                                                                                                                                                                                       901
                                                                                                                                                                                                                                                                                                                                          901
                                                                                                                                                                                                                                                                                                                                                                                             196
                                                                                                                                                                                                                                                                                                                                                                                                                                             196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADD22861;
                               721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADD22861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         유
                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    엄
                                                                  ò
                                                                                                                          셤
                                                                                                                                                                               ò
                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                               are agonists of recombinant human historians and composition of recombinant human historians and antagonist of human histamine H3 receptor protein activity with recombinant human histamine H3 receptor protein, and measuring an agonistic effect of the compound on the recombinant human histamine H3 receptor protein. The methods and compositions of the present invention are useful for diagnosing and treating human histamine H3 receptor related disorders, such as central and peripheral nervous system disorders (depression, anxiety, psychoses, Parkinson's disease, Alzheimer's disease, dementia and tardive dyskinesia), asthma, allergy, diabetes mellitus, inflammation, immune, cardiovascular (hypertension, and arrhythmia) and gastrointestinal disorders. The present sequence is the coding sequence of the human histamine H3 receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                             invention relates to a method of identifying compounds that
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCCGACTCGAGCCTCCGCACCCCAGAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCATACCGGGCCCAGCAGGTGACACGCGGGGGCAGTGCGGAAGATGCTGCTGGTGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCGGCGCGCGCGCGCGCGCTTCTCGGCAGCTGGACCGCGGTGCTGGCCGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGCCCTCCTCCTCGCCCACGCTGCTGGCCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCTGCCTTCAACATCGTGCTCATCAGCTACGACGGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTGCTGGCCTTCCTGCTGTACGGACCACCATCCTGAGCTGGGAGTACCTGTCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGCTCCATCCCCGAGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGCTCCATCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTCTTTAACCTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGCCCCGAGCCCCTCCCGAGGCCCAGCCCTCACCACCCCCCACCGCCTGGCTGCTGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGGAGCGCGCCCCCCCCGACGGCCGCTGAACGCTTCGGGGGCGCCTGGCGGCGATGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATGGAGCGCGCCCCCGACGGCCGCTGAACGCTTCGGGGGCGCTGGCGGGGGGATGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCGACTCGAGCCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTCCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCCGAGCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCATACCGGGCCCAGCAGGGTGACACGCGGCGGCAGTGCGGAAGATGCTGCTGGTGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            accidente de la reconstruction de la reconstruction
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Score 1335; DB 9; Length 1335; 100.0%; Pred. No. 3.3e-217; tive 0; Mismatches 0; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 1335 BP; 192 A; 476 C; 416 G; 251 T; 0 U; 0 Other;
                          2; 55pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity 100.
Matches 1335; Conservative
                          Fig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
```

요

ò

品 公 品 公 品 公 品 公

a

ò

8 6

셤

ò

Db

ò

d

8 8 8

g

ð

ò

```
AAGAGGGGCTCCCAAGCCGTCGGCGTCCTCGCTCGCTGGAGAAGCGCATGAAGATGGTG
                                                                                                                                           ATCTACCTGAACATCCAGAGGGGCACCCGCCTCCGGCTGGATGGGGGCTCGAGAGGCAGCC
                                                                                                                                                                                                                                                                                                                                                                                           GCCGTAGGCGCTGAGGCCGGGGACCCGACCCTCGGGGGTGGCGGTGGCGGCGGCGGCGGCTCCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1021 TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGGGCCGCCTGCCATGCCTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTGTGGGCCAACTCGGCTGTCAACCCTGTACCCTCTGTGCCACACACTTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAAGCTCCTG
TCATACCGGGCCCAGCAGGGTGACACGCGGCGGCCAGTGCGGGAAGATGCTGCTGTGTGG
                                                             GIGCIGGCCTICCIGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                        AGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                     ACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC
                                                                                                                                                                                                                            Techescasaasesecacesesasesccarecescacacacacacacacacacacacacacacases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTCAGAGGCCGCGCTCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGAGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCGCTGGAGAAGCGCATGAAGATGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCCCAGAGCTTCACCCAGCGCTTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCCATACACGCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCACAGCTTCCGC
                                        GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                           ATCTACCTGAACATCCAGAGGCGCACCCGCCTCGGCTGGATGGGGGCTCGAGAGGCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCCGTAGGCGCTGAGGCCGGGGGGGGGCCCTCGGGGGTGGCGGTGGGGGCGGCTCCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCTCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gecercarearearerrresecrereceseceerecearacaeeerecreareareare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human histamine H3 receptor cDNA #2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAGCACTGCTGGAAG 1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADR31457 standard; cDNA; 1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAGCACTGCTGGAAG 1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           04-NOV-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          961
121
                                                                                                                      541
                                                                                                                                                              541
                                                                                                                                                                                                       501
                                                                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                             661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1321
                                                                                                                                                                                                                                             501
                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1261
                                        481
                                                                                481
                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                          721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADR31457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                              셤
                                                                                                                ò
                                                                                                                                                        유
                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                       The invention relates to a monospecific antibody immunologically reactive with a protein appearing as ADD22854, where the protein functions as a human histamine H3 receptor. The antibody blocks intracellular signaling cativity of the human histamine H3 receptors in response to ligand binding. The antibody is useful for detecting and quantifying expression of human histamine H3 receptors, which may be useful for diagnostic, of human histamine H3 receptors, which may be useful for diagnostic, of human histamine H3 receptors, which may be useful for diagnostic, of pidemiological or forensic purposes. The antibody is potentially useful in treating diseases such as depression, anxiety, schizophrenia, Parkinson's disease, obesity, hypertension, Tourette's syndrome, sexual Alzheimer's disease, obseity, hypertension, contity disorders, pain, eating disorders and anorexia, cardiovascular and cerebrovascular calisorders, diabetes, constipation, arrhythmia, ulcers, asthma, allergy, inflammation, or prostate dysfunction. The present sequence is the open cading frame encoding the histamine H3 receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | TCATACCGGGCCCAGCAGGGTGACACGCGGGGGGGGGGTGCGGAAGATGCTGCTGGTGTGG 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCGTCGTCGTCTTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCGACTCGAGCCTCCGCACCCAGAACATCTTCCTGCTCACCTCGCCATCTCCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GOGGCGCGGCGCGCGCTTCTCGGCAGCCTGGACCGCGGGGGTGCTGGCCGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241 TTCCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCCGACTCGAGCCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCTTCGGCCCGGGCCTCTGCAAGCTGTGGCTGTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCTGCCTTCAACATCGTGCTCAGCTACGACCGCTTCCTGTCGGTCACCCGGAGCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                        for
                                                                                                                                                                                                                                                                                 New antibody against human histamine H3 receptor, preferably with receptor antagonist activity, useful for diagnostic purposes and foureating diseases such as depression, Parkinson's disease, obesity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 100.0%; Score 1335; DB 10; Length 1335; Best Local Similarity 100.0%; Pred. No. 3.3e-217; Matches 1335; Conservative 0; Mismatches 0; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 1335 BP; 192 A; 476 C; 416 G; 251 T; 0 U; 0 Other;
                                                                                                                                                                                  Huvar A, Pyati J,
                                                                                                                                                                                                                                                                                                                                                                                         Example 1; SEQ ID NO 6; 25pp; English
                                                         21-AUG-2000; 2000US-00642514.
                                                                                                 98US-00167354
                                                                                                                                                                                  Lovenberg TW, Erlander M,
                                                                                                                                         PHARM CORP
                                                                                                                                                                                                                      WPI; 2003-810293/76.
P-PSDB; ADD22854.
                                                                                                                                         (ORTH ) ORTHO
                                                                                               07-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                 hypertension.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
```

셤

ઠે 셤 ઠે

ઠે

셤

g

ઠે

셤

ઠે

쉱 ઠે

ઠે

1020 1080 1080

1020

1140 1200 1200

1140

1260 1320

us-10-727-021-6.rng

```
1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1020
                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                      840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         960
                                 420
                                                               420
                                                                                            480
                                                                                                                        480
                                                                                                                                                                                                                600
                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                      999
                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                             780
                                                                                                                                                                                                                                                                                                                                                                                                                        780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCGGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCCATACACGCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1141 CGGCCGCCTGCCATGCCACTGCGTCCTGACTACTGGTACGAAACCTCCTTCTGGCTC
   301 ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                     GIGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                 AGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCTCTCATC
                                                                                                                                                                                                                                                                                                                                                 GCCGTAGGCGCTGAGGCCGGGGAGCGACCCTCGGGGGGTGGCGGTGGGGGGCGGCTCCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTCTGTGCCACACACCTTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGGGCCTTCACCAAGCTGCTCTCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                                 TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                              TCATACCGGGCCCAGCAGGGTGACACGCGGCGGCAGTGCGGAAGATGCTGCTGTGG
                                                                                                             GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                AGCTCCATCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                         ACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTTTAACCTCAGC
                                                                                                                                                                                                                                                                                                        601 ACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC
                                                                                                                                                                                                                                                                                                                                   ATCTACCTGAACATCCAGAGGGGCACCCGCCTCCGGCTGGATGGGGGCTCGAGAGGCAGCC
                                                                                                                                                                                                                                                                                                                                                                                             GGCCCCGAGCCCCTCCCGAGGCCCAGCCCTCACCACCCCCACGGCTGCTGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                            AAGAGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCGCAGAAGCGCATGAAGATGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCGTCATCGTGAGCATCTTTGGGCTTCTGCTGGGCCCCCATACACGCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAGCACTGCTGGAAG 1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     901 /
                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1321
                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                       781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1321
                                                                                              121
                                                                                                                                                       481
                                                                                                                                                                                  481
                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            841
                                                                361
                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                     99
                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                          721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAA09061
                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                  임
                                                                                                                                               ò
                                                                                                                                                                               g
                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       જે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                             셤
                                                                                           8
                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The present invention provides a human histamine H3 receptor protein and nucleic acid encoding such protein. The invention is useful for identifying compounds that modulate the activity of human histamine H3 receptor. The invention is useful for treating a condition that is mediated by a human histamine H3 receptor in a patient and for treating Parkinson's disease, obesity, Alzheimer's disease, pain, stress, ulcers, constipation and non-insulin dependent diabetes mellitus. The present
Human; Parkinson's disease; obesity; Alzheimer's disease; pain; stress; ulcer; constipation; non-insulin dependent diabetes mellitus; gene; ss; histamine H3 receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel isolated and purified human histamine H3 receptor protein useful for identifying modulators utilized for treating Parkinson's disease, obesity, Alzheimer's disease, pain, stress or ulcers.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCGACTCGAGCCTCCGCACACACTTCTTCCTGCTCAACCTCGACCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTCCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TICCICGICGCCCCTICIGCATCCCACIGIAIGIACCCTACGIGCIGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCGGCGGCGGCGCGCGCGCGTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Areacecrecreareaceaceaceacerecresceacecerecresresere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCCGACTCGAGCCTCCGCACCCAGAACATTCTTCCTGCTCAACCTCGCCATCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Score 1335; DB 13; Length 1335; 100.0%; Pred. No. 3.3e-217; ive 0; Mismatches 0; Indels 0;
                                                                                                                        /*tag= a
/product= "Human histamine H3 receptor protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 1335 BP; 192 A; 476 C; 416 G; 251 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sequence is a human histamine H3 receptor cDNA.
                                                                                                                                                                                                                                                                                                                                                                                .
ز
                                                                                                                                                                                                                                                                                                                                                                                  Pyati
                                                                                                                                                                                                                                                                                                                                                                                  Huvar A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 2; SEQ ID NO 6; 26pp; English.
                                                                                    Location/Qualifiers
1. .1335
                                                                                                                                                                                                                                                           07-OCT-1998; 98US-00167354.
21-AUG-2000; 2000US-00642852.
                                                                                                                                                                                                                               02-DEC-2003; 2003US-00727021
                                                                                                                                                                                                                                                                                                                                                                                Σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          st_Local Similarity 100.
tches 1335; Conservative
                                                                                                                                                                                                                                                                                                                                                                                  Erlander
                                                                                                                                                                                                                                                                                                     (LOVE/) LOVENBERG T W. (ERLA/) ERLANDER M. (HUVA/) HUVAR A. (PYAT/) PYATI J.
                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2004-592726/57.
P-PSDB; ADR31458.
                                                                                                                                                                      US2004156845-A1
                                                                                                                                                                                                                                                                                                                                                                                Lovenberg TW,
                                                                  sapiens
                                                                                                                                                                                                  12-AUG-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                  Homo
```

g

ò

욧. 뭥

4 6 6 6

ò

Mon

```
1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                  1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGGCTCCCTG 1320
                                                                                                                                                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    960
                                                         420
                                                                                     718
                                                                                                                  480
                                                                                                                                              778
                                                                                                                                                                             540
                                                                                                                                                                                                         838
                                                                                                                                                                                                                                       909
                                                                                                                                                                                                                                                                    898
                                                                                                                                                                                                                                                                                                99
                                                                                                                                                                                                                                                                                                                             958
                                                                                                                                                                                                                                                                                                                                                           720
                           658
                                                                                                                                                TCATACCGGGCCCAGCAGGGTGACACGCGGCGGCAGTGCCGGAAGATGCTGCTGGTGG
                                                                                                                                                                                                                                                     899 ACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTAACCTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATC
                                                                                TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                                                             ATCTACCTGAACATCCAGAGGGCGCACCCGCTCCGGCTGGATGGGGCTCGAGAGGCAGCC
                                                                                                                                                                                                                                                                                                                                                           ATCTACCTGAACATCCAGAGGGGCACCCGCCTCCGGCTGGATGGGGGCTCGAGAGGCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                      GGCCCCGAGCCCCTCCCGAGGCCCAGCCCTCACCACCCCCCACGCCTGGCTGCTGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                       GGCCCCGAGCCCCTCCCGAGGCCCAGCCCTCACCACCCCCCACCGCCTGGCTGCTGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | derteacecaectecaectecaecaectecaegegeaeteaeaegecececece
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAGAGGGCTCCAAGCCGTCGGCGTCCTCGCCTCGCTGGAGGCGCATGAAGATGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGGGCCGCCTGCCATGCCTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGGGCCGCCTGCCATGGCCATGCGTCCCTGACTACTGGTACGAACCTCCTTCTGGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG
 <u> ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCC</u>
                                                                                                                                                                                                                                       AGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                  ACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGGAAGTGGCCCAAGTCGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCACCACGCCTCGC
                                                                                                                                                                             GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGCCACTGAGAGGCCGCGCTCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAGCACTGCTGGAAG 1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAGCACTGCTGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                   1019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1379 (
                             599
                                                                                      629
                                                                                                                                                719
                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                   839
                                                                                                                                                                                                                                                                                                                                                                                        959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1499
 301
                                                         361
                                                                                                                    421
                                                                                                                                                                                                                                                                                                109
                                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1619
                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     901
                                                                             ద
                                                                                                                                             g
                                                                                                                                                                                                   요
                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                     엄
                                                                                                                                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         q
                                                       ò
                                                                                                                 ò
                                                                                                                                                                          ò
                                                                                                                                                                                                                                     ઠ
                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                              õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The cDNA encodes the human histamine H3 receptor. The polypeptide contains the seven conserved hydrophobic domains and specific residues conserved in biogenic amine receptors. The human histamine H3 receptor polymucleotides and polypeptides are used in methods to screen for modulators of receptor activity (claimed). Such agonists and antagonists may prove useful as research tools or may be used as therapeutics to treat disorders directly or indirectly involving histamine receptors (claimed). The characterization of the polymucleotide is useful for forensic analysis, diagnostic applications, and epidemiological studies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Novel human histamine H3 receptor polynucleotides and polypeptides used in methods to identify modulators of receptor activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCGCCGCCGCGCGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCGGCGGCGGCGCGCGCGCCTTCTCGGCAGCCTGGACCGCGGGTGCTGGCCGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATGGCGCTGCTCGTGGCCACGGTGCTGGCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATGCCCCTCCTCATCGTGCCACGGTGCTGGCTGCTGCTCGTCTTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCCGACTCGAGCCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTCCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCCGACTCGAGCCTCCGCAGCAGCAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%; Score 1335; DB 3; Length 2699; 100.0%; Pred. No. 3.3e-217; ive 0; Mismatches 0; Indels 0;
                                                                                                                  receptor; biogenic amine receptor homologue; ss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 2699 BP; 404 A; 988 C; 805 G; 502 T; 0 U; 0 Other;
                                                                                                                                                                                                           /*tag= a
/product= "histamine_H3_receptor"
                                                                                                                                                                                                                                                                                                                                                                                                      Pyati J;
                                                                                                                                                                                                                                                                                                                                                                                                     Lovenberg TW, Erlander M, Huvar A,
                                                                                                                                                                            Location/Qualifiers
ВР
                                                                                   Human histamine H3 receptor cDNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 2; Fig 1A-B; 54pp; English
                                                                                                                                                                                                                                                                                                                                                                         (ORTH ) ORTHO-MCNEIL PHARM INC
standard; cDNA; 2699
                                                                                                                                                                                                                                                                                                              98WO-US021090
                                                                                                                                                                                                                                                                                                                                           98WO-US021090
                                                                                                                                                                                          299. .1636
/*tag= a
                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity 100.
Matches 1335, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2000-303632/26.
P-PSDB; AAY92218.
                                                                                                                                                                                                                                                     WO200020011-A1
                                                                                                                 histamine H3
                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                              07-OCT-1998;
                                                                                                                                                                                                                                                                                                                                           07-OCT-1998;
                                                         10-AUG-2000
                                                                                                                                                                                                                                                                                13-APR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 419
AAA09061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                           AAA09061
                                                                                                                                                                            Key
```

ద

ò

ያ ያ

ઠે

8 & 8

ઠે

480 778 540

```
1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1618
                                                                                                                                                                                                                                                                                                                                  1018
                                                                                                                                                                                                                                                                                                                                                                                        1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1198
                                                                                                                                                                                                                                                                                                                                                                                                                   840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             960
                                                                                                                                                                                            900
                                                                                                                                                                                                                        898
                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCCCAGAGCTTCACCCAGGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG
                                                                                                                                                                                                                                                ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                   TGCTGGCAGAAGGGGCACGGGGAGGCCATGCCGCTGCACCAAGGTATGGGGTGAGGTGAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCTCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     receagaderreacedadederrregerrereregadadadaderegedadaderegeria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACATCCACGCTGATGATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gecercarcergaecarcrrregecrerecredecececaracacecreargarcare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCACACCTTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTGTGGGCCAACTCGGCTGTCAACCCTGTGCTCTACCCTCTGTGCCACACAGCTTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAAGCTCCCTG
599 ACCTICGGCCCGGGGCCTCTGCAAGCTGTGGCTGGTGGACTACCTGCTGTGCACCTCC
                            TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                          TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGGCGTC
                                                                                   TCATACCGGGCCCAGCAGGCTGACACGCGGCGGGCAGTGCGGAAGATGCTGCTGGTGG
                                                                                               TCATACCGGGCCCAGCAGGGTGACACGCGGGCGGGCAGTGCGGAAGATGCTGCTGCTGGTGTGG
                                                                                                                                       GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                      GTGCTTGCCTGCTGTACGGACCATCCTGAGCTGGGGTACCTGTCCGGGGGC
                                                                                                                                                                                              <u> AGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC</u>
                                                                                                                                                                                                               GGCCCCGAGCCCCTCCCGAGGCCCAGCCCTCACCACCCCCCACCGCCTGGCTGCTGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                   GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCGCTCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGAGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCGCTGGAGAAGCGCATGAAGATGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGGGCCGCCTGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAGCACTGCTGGAAG 1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAGCACTGCTGGAAG
                                                                                                                                                                                                                        839
                                                                                                                                                                                                                                                                                                                                  959
                                                                                                                                                                                                                                                                                                                                                                                        1019 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1559
                                                                                                                                                                                                                                                                                                                                                                                                                                             1079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1619
                                                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                              899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1321
                            361
                                                       629
                                                                                   121
                                                                                                            719
                                                                                                                                       481
                                                                                                                                                                   779
                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1201
                                                                                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                   781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 8
ABN84882
                                                                                                                                                                                                                                                                                                                                                                                                                                      ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                             원
                                                                                                                                                                                           ò
                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                      ò
                                                셤
                                                                              ò
                                                                                                    셤
                                                                                                                               8
                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present sequence represents the complete sequence of cDNA encoding a human histamine H3 receptor. The histamine H3 receptor DNA molecules are useful for isolating homologues of receptor; identifying and isolating genomic equivalents of receptor, and identifying, detecting or isolating mutant forms of the receptor. The DNA molecules are also useful in gene therapy for the treatment of inflammation or allergies. The human histamine H3 receptor protein is useful in identifying modulators of the human histamine H3 receptor, which in turn are useful as therapeutic and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                        Novel DNA molecules useful in gene therapy for the treatment of inflammation or allergy, or for encoding a human histamine H3 receptor and identifying histamine receptor modulators that are useful as therapeutic and diagnostic agents.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AFGGGGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                               receptor,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCGCGCGCGGGGCGCGCGCGCTTCTCGGCACCCTGGACCCCCGGGTGCTGCCCCGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCCGACTCGAGCCTCCGCACCCAGGACAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCCGACTCGAGCCTCCGCACACACTTCTTCCTGCTCAACCTCGACCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTCCTCGTCGCCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTCCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGGAGCGCGCCCCCCGACGGCCGCTGAACGCTTCGGGGGCGCTGCCGGCGGCGATGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCGGCGCGCGCGCGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGCCCCTCCTCATCCTGCCCACGCTGCTGGCCAACGCCCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
0
                                                                                                              H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 2699 BP; 404 A; 988 C; 805 G; 502 T; 0 U; 0 Other;
                                                                                                            Complete nucleotide sequence of cDNA encoding a histamine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Indels
                                                                                                                                      Human; histamine H3 receptor; inflammation; allergy; ss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Score 1335; DB 4;
100.0%; Pred. No. 3.3e-217;
iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                    Huvar
                                                                                                                                                                                                                                                                                                                                    Σ
                                                                                                                                                                                                                                                                                                                                    Erlander
                            AAC62365 standard; cDNA; 2699 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 1; Fig 1A-B; 25pp; English
                                                                                                                                                                                                                                                   98US-00167354
                                                                                                                                                                                                                                                                              98US-00167354
                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches 1335; Conservative
                                                                                                                                                                                                                                                                                                         PHARM CORP
                                                                                                                                                                                                                                                                                                                                    Lovenberg TW, Pyati J,
                                                                                                                                                                                                                                                                                                                                                              WPI; 2001-023168/03.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                diagnostic agents
                                                                                                                                                                                                                                                                                                         (ORTH ) ORTHO
                                                                                                                                                                                                                                                                              07-OCT-1998;
                                                                                 19-MAR-2001
                                                                                                                                                                                              US6136559-A.
                                                                                                                                                                                                                         24-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
```

8 6

g

ò

g ò g

셤 ò

ઠે

720

Mon

BP.

us-10-727-021-6.rng

```
Histamine; receptor; G-protein coupled receptor; human; neuroprotective; cardiant; antidepressant; tranquillizer; antiparkthoshinan; anorectic; hypotensive; analgesic; antidabetic; laxative; antiarrythmic; antiulcer; antiallergic; antiinflammatory; gene therapy; gene; ss.
                                                                                                  Location/Qualifiers
299. .1636
/*tag= a
/product= "Histamine H3
                                       Human histamine H3 receptor cDNA
 standard; cDNA; 2699
                                                                                                                                                                            98US-00167354
                                                                                                                                                               21-AUG-2000; 2000US-00642855
                          (first entry)
                                                                                                                                                                                          PHARM CORP
                                                                                                                                                                                                       Erlander
                                                                                                                                                                                                                     2002-641560/69.
                                                                                                                                                                                                                           P-PSDB; ABB79792
                                                                                                                                                                                         (ORTH ) ORTHO
                                                                                                                                                                                                       Lovenberg TW,
                                                                                                                                                                            07-OCT-1998;
                                                                                       Homo sapiens
                                                                                                                                     US6413743-B1
                          15-NOV-2002
ABN84882
             ABN84882
                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                   Key
```

۵, Pyati

À

Huvar

Σ

receptor

The present sequence is that of cDNA clone pH3R coding for human histamine H3 receptor, a novel G-protein coupled receptor. The clone was isolated from a human thalamus cDNA library using a histamine H3 receptor cDNA has been expressed in recombinant host cells, which produced active recombinant protein. H3 receptor nucleic acids and proteins can be used to identify modulators of H3 receptor acids and proteins can be used to identify modulators of H3 receptor cativity or expression, useful as therapeutic or diagnostic agents for central nervous system disorders, such as depression, anxiety, psychoses (e.g. schizophrenia), tardive dyskinesia, Parkinson's disease, obesity, hypertension, Towrette's syndrome, sexual dysfunction, drug addiction, drug abuse, cognitive disorders, Alzheimer's disease, senile dementia, obsessive-compulsive behaviour, panic attacks, pain, social phobias, eating disorders and anorexia, cardiovascular and cerebrovascular constipation, arrhythmia, disorders of the neuroendocrine system, stress and spasticity, as well as acid secretion, ulcers, airway constriction, aethma, allersy, inflammation and prostate dysfunction. Histemine H3 receptor DNA molecules are also useful for isolating related sequences, identifying and isolating genomic equivalents, identifying of etecting or isolating mutant forms of DNA, and in gene therapy Novel isolated and purified DNA molecule encoding human histamine H3 receptor protein, useful for identifying modulators of human histamine H3 receptor protein activity. Example 3; Fig 1A-B; 25pp; English.

Sequence 2699 BP; 404 A; 988 C; 805 G; 502 T; 0 U; 0 Other;

100.0%; Score 1335; DB 6; Length 2699; 100.0%; Pred. No. 3.3e-217;

358 9 Gaps ö 0; Indels 0; Mismatches Best Local Similarity 100. Matches 1335; Conservative н 299 ઠે g

61 GCGGCGGCGGCGCGCGCGCCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTC 120

ò

ö

1018 1078 1138 1198 1020 1080 1378 1438 1258 AAGAGGGGCTCCAAGCCGTCGGCGTCCTCGGCTTGGAGAAGCGCATGAAGATGGTG 1318 GCCGTCATCGTGAGCATCTTTGGGCTCTGGGCCCCCATACACGCTGCTGATGATCATC 1140 CGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAAACCTCCTTCTGGCTC 1200 720 780 840 240 300 898 999 928 900 960 418 180 478 538 598 360 658 420 718 480 778 540 838 900 TCCCAGAGCTTCACCCAGCGCTTTTCGGCTGTCTCTCGGGAAAAGTGGCCAAGTCGCTG TCTGCCTTCAACATCGTGGTCATCAGCTACGACCGCTTCCTGTCGGTCACCGGGGCGTC GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGGCCGCGCGCTCACTC GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGCCCCCATACACGCTGCTGATGATCATC ATGGCGCTGCTCATCGTGGCCACGGTGCTGGCAACGCGCTGGTCATGCTCGCCTTCGTG GCGACTCGAGCCTCCGCACCCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC Trecrededecentregeateceaethargracetracetaeaeaeceecae TCATACCGGGCCCAGCAGGGTGACACGCGGCGGCCAGTGCGGAAGATGCTGCTGCTGGTGTGG GTGCTGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGATACCTGTCCGGGGC ACGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC ecceraegcecraageccegaageccarcercegageregeagecagecegeccecre TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG GCGCCGCCGCGCCCCCCCCCTTCTCGCCTGCACCCCCGCGCGGTGCTGGCCCCCCTC GCCGACTCGAGCCTCCGCACCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC TTCCTCGTCGCCCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG TCATACCGGGCCCAGCAGGGTGACACGCGGCGGGCAGTGCGGAAGATGCTGCTGGTGTGG GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC AGCTCCATCCCCGAGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGGCTCGAGAGGCAGCC 1019 GGCCCCGAGCCCCTCCCGAGGCCCAGCCCTCACCACCCCCACCGCCTGGCTGCTGGGG GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCTCACTC AAGAGGGGCTCCAAGCCGTCGGCGTCCTCGGCCTTGGAAGAAGCGCATGAAGATGGTG TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC 668 661 1079 1139 (1199 (1259 1319 539 599 629 719 179 839 959 1379 359 121 419 181 479 241 301 361 421 541 601 721 781 841 1021 1141 961 1081 481 901 8 g g g Ġ g a 셤 QQ ò 요 ò ઠે ઠે 셤 ò ઠે ð ઠે 셤 ò ઠે 셤 ઠે ò ద 8 셤 ठे ઠે ઠ ઠે ò

1618

New isolated antigenic peptides e.g., for G protein-coupled receptors (GPCR), useful for diagnosing and designing drugs for treating conditions in which GPCRs are involved, e.g. AIDS, Alzheimer's disease, cancer or

The present invention describes antigenic peptides (I) comprising: (a) any one of 1601 sequences (see ABP87019 to ABP83619) of 12-24 amino acids. Also described: (I) an assay for the detection of a particular G protein-coupled receptor (GPCR) or a candidate polypeptide in a sample; and (2) an isolated antibody having high specificity and high affinity or avidity for a particular GPCR. (I) can be used as GPCR modulacross and in gene therapy. The antigenic peptides for GPCRs are useful in detecting an antibody against a particular GPCR, and in the production of specific antibodies. The peptides and antibodies are also useful for detecting the presence of corresponding GPCRs. The antigenic peptides for GPCRs and antibodies are useful for diagnosing and designing drugs for treating immune-related diseases, growth-related diseases, cell

ò

1018 ö 718 480 540 900 99 720 780 358 418 180 478 240 300 598 360 658 420 778 838 838 regeneration-related disease, immunological-related cell proliferative diseases, or autoimmune diseases, e.g. AIDS, Alzheimer's disease, exteneroscierosis, bacterial, fungal, procozoan or viral infections, osteoarthritis, osteoporosis, cancer, cardiomyopathy, chronic and acute inflammation, allergies, Crohn's disease, diabetes, graft versus host disease, Parkinson's disease, multiple sclerosis, pain, psoriasis, anxiety, depression, schizophrenia, dementia, mental retardation, memory loss, epilepsy, asthma, tuberculosis, obesity, nausea, hypertension, hypotension, renal disorders, rheumatoid atthritis, trauma, ulcers, or any other disorder in which GPCRs are involved. The antibodies may be used in immunoassays and immunodiagnosis. ABZ42523 to ABZ42869 encode exemplification of the recovery of ABPR42521. 9 AGCTCCATCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC GCGGCGGCGGCGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTC GCCGACTCGAGCCTCCGCACCCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGGC GCCGACTCGAGCCTCCGCACCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC 539 TTCCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGGCTGACAGGCCGCTGG TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC TCATACCGGCCCAGCAGCAGGTGACACGCGGCGGCAGTGCGGGAAGATGCTGCTGGTGTGG GTGCTGCCTGCTGTACGGACCATCCTGAGCTGGGATACCTGTCCGGGGGC 959 ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCC ATGGCGCTGCTCATCGTGGCCACGGTGCTGGCCAACGCGCTGGTCATGCTCGCCTTCGTG 419 Areacecrecreareareaceaceaceaceaceaceaacececresrearecrescerresre TTCCTCGTCGCCCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG ACCTTCGGCCGGGCCTCTGCAAGCTGTGGCTAGTGGACTACCTGCTGTGCACCTCC ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTAGTGGACTACCTGCTGTGCACTCC TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC TCATACCGGGCCCAGCAGGGTGACACGCGGCGGGCAGTGCGGAAGATGCTGCTGGTGTG GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC AGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC ACGCCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTTAACCTCAGC ATCTACCTGAACATCCAGAGGGGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCC ö 100.0%; Score 1335; DB 8; Length 2699; 100.0%; Pred. No. 3.3e-217; tive 0; Mismatches 0; Indels 0; Sequence 2699 BP; 404 A; 988 C; 805 G; 502 T; 0 U; 0 Other; exemplification of the present invention Best Local Similarity 100. Matches 1335; Conservative 479 (299 601 668 299 359 121 417 839 61 181 301 361 629 421 719 481 541 661 241 721 Ouery Match \$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$ g g g qq g g ò 원 ρp 셤 ઠ 셤 ò g ò ð ઠે ð 8 G ò ઠે ò ò ઠ

```
The present invention relates to a method of identifying compounds that are agonists of recombinant human histamine H3 receptor protein activity, comprising combining a compound suspected of being an antagonist of human histamine H3 receptor protein activity with recombinant human histamine H3 receptor protein, and measuring an agonistic effect of the compound on the recombinant human histamine H3 receptor protein. The methods and compositions of the present invention are useful for diagnosing and treating human histamine H3 receptor-related disorders, such as central and peripheral nervous system disorders (depression, anxiety, psychoses, Parkinson's disease, Alzheimer's disease, dementia and tardive dyskinesia), asthma, allergy, diabetes mellitus, inflammation, immune, cardiovascular (hypertension, and arrhythmia) and gastrointestinal histamine H3 receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     419 ATGGCGCTGCTCATCGTGGCCACGGTGCTGGCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Arodadedecececececeaedececreaaederreedececreaedeceardee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCGACTCGAGCCTCCGCACCCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTCCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               rerecerreacarcerecreaceracaaceacecerrecreresegreaceceaacegre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCGGCGGCGGGGGGGCGCGCGTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TICCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      <u> ACCTTCGGCCGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCC</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GIGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 ATGGAGCGCGCCCCCGACGGCCCGCTGAACGCTTCGGGGGCCCTGGCGGCGGCGATGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATGGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCATACCGGGCCCAGCAGGGTGACACGCGGCGGCAGTGCGGAAGATGCTGCTGGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AcedetriceAceceredadarrerriaAcecerirecreacereacereacererriaAcereace
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 2699;
disorders, such as nervous system disorders, asthma, allergy hypertension and diabetes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 2699 BP; 404 A; 988 C; 805 G; 502 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 1335; DB 9;
100.0%; Pred. No. 3.3e-217;
ive 0; Mismatches 0;
                                                                           Example 1; Fig 1; 55pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 100.
Matches 1335; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                        1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1140
                                                                                                                                                                                                                                                                                                                        1318
                                                                                                                                                                                                                                                                                                                                                                                                                   1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human; histamine H3 receptor; receptor modulator; gene; ds; agonist;
nootropic; neuroprotective; cerebroprotective; cardiant; antiasthmatic;
immunomodulator; gastrointestinal; antiallergic; antidiabetic;
antiinflammatory; hypotensive; antiarrhythmic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Identifying agonists of recombinant human histamine H3 receptor protein activity, useful for diagnosing and treating H3 receptor-related
                           TGCTGGCAGAAGGGGCACGGGAGGCCATGCCGCTGCACAGGTATGGGGTGAGGCG
                                                                                                       AAGAGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCGCTGGAAGCGCATGAAGATGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG
                                                                                                                                                                         GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCTCACTC
                                                                                                                                                                                                       GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCCACTGAGAGGCCGCTCACTC
                                                                                                                                                                                                                                                                        AAGAGGGCTCCAAGCCGTCGCGTCCTCGGCCTCGCAGAAGCGCATGAAGATGGTG
                                                                                                                                                                                                                                                                                                                                                                   TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                   rcccagagerrcacccagecerrregererereseacageaaagregecaagregere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGCCCCCATACACGCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG
                                                                           GCCGTAGGCGCTGAGGCCGGGGAGCCGACCCTCGGGGGTGGCGGTGGGGGCCGCTCCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCACCACGCTTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human histamine H3 receptor nucleotide sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (ORTH ) ORTHO-MCNEIL PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAGCACTGCTGGAAG 1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACC59394 standard; DNA; 2699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15-NOV-2001; 2001WO-US045313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15-NOV-2001; 2001WO-US045313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               28-AUG-2003 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2003-457595/43.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO2003044059-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                      1139
                                                                                                                                                                                                                      1199
                                                                                                                                                                                                                                                                                                                      1259
                                                                                                                                                                                                                                                                                                                                                                      1021
                                                                                                                                                                                                                                                                                                                                                                                                                   1319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Lovenberg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1321
                                                                           841
                                                                                                                                                                      901
                                                                                                                                                                                                                                                                        961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACC59394
ID ACC59394
XX ACC59394
AC ACC5
XX ACC5
XX ACC5
XX ACC5
XX ACC6
XX AC
                                                                                                            g
                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                      ŝ
                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           а
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      કે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
```

538 300 598 360 658 420 718 480 540

838 600 898 9

778

720

ö

358 120 418 180 478

```
Query Match 100.
Best Local Similarity 100.
Matches 1335; Conservative
                                                                     (ORTH ) ORTHO PHARM CORP
                                                                                                             WPI; 2003-810293/76.
P-PSDB; ADD22854.
                                                                                                                                                                            hypertension.
                                                 07-0CT-1998;
         20-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                             1198
                                                                                                                                                     1258
                                                                                                                                                                          1020
                                                                                                                                                                                              1318
                                                                                                                                                                                                                  1080
                                                                                                                                                                                                                                      1378
                                                                                                                                                                                                                                                          1140
                                                                                                                                                                                                                                                                                                  1200
                                                                                                                                                                                                                                                                                                                      1498
                                                                                                                                                                                                                                                                                                                                          1260
                                                                                                                                                                                                                                                                                                                                                                                  1320
                                                                                                                                                                                                                                                                                                                                                                                             CGGCCTTCACCCAGGTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCTG 1618
                                                 840
                                                                                        900
                                                                                                                                  960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human; 88; Histamine H3 receptor; GPCR; G protein-coupled receptor; gene; depression; anxiety; schizophrenia; Parkinson's disease; obesity; hypertension; Tourette's syndrome; sexual dysfunction; drug addiction; drug abuse; cognitive disorder; Albeimer's disease; obsessive-compulsive behaviour; panic attack; pain; eating disorder; anorexia; cardiovascular disorder; cerebrovascular disorder; diabetes; constipation; arrhythmia; ulcer; asthma; allergy; inflammation;
                                                                                                                                                                                                                              TCCCAGAGCTTCACCCCAGCCTTTCGCCTGTCTCGGGAAAGTGGCCAAGTCGCTG
                                                                                                                                                                                                                                                                                                            CGGCCCCCCCTGCCATGCCCATGCGTCCCTGACTACTGGTACGAACCTCCTTCTGGCTC
                                                                                                                                                                                                                                                                                                                                                                                  CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG
                      TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG
                                                                                                                                                                                                                                                                             GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                                                                          CTGTGGGCCAACTCGGCTGTCAACCCTGTCTCTACCCTCTGTGCCACACAGCTTCCGC
         GGCCCCGAGCCCCTCCCGAGGCCCAGCCCTCACCACCCCCCACCGCCTGGCTGCTGGGGC
                                                 GCCGTAGGCGCTGAGGCCGGGGGGAGCCGTCGGGGGTGGCGGTGGGGGCGCCTCCGTG
                                                                                                           GCCGTAGGCGCTGAGGCCGGGAAGGCGACCTTCGGGGGCTGGCGGTGGGGGGGCGCTCCGTG
                                                                                                                                                   GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGCCACTGAGAGGCCGCGCTCACTC
                                                                                                                                                                          AAGAGGGCTCCAAGCCGTCGGCGTCCTCGCTCGCTGGAGAAGCGCATGAAGATGGTG
                                                                                                                                                                                              AAGAGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCGAAGAGCGCATGAAGATGGTG
                                                                                                                                                                                                                                                           GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATC
                                                                                                                                  GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCGCTCACTC
                                                                                                                                                                                                                                                                                                  CGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human full length cDNA encoding histamine H3 receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
1.29g. 1636
1.42g- 1636
1.product= "Histamine H3 receptor"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADD22860 standard; cDNA; 2699 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                           GAGCACTGCTGGAAG 1335
                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     prostate dysfunction.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US6437100-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15-JAN-2004
                            1019
                                                                    1079
                                                                                                                                                     1199
                                                                                                                                                                                              1259
                                                                                                                                                                                                                                      1319
                                                                                                                                                                                                                                                                                                                     1439
                                                                                                                                                                                                                                                                                                                                                              1499
                                                                                                                                                                                                                                                                                                                                                                                                      1559
                                                                                                                                                                                                                                                                                                                                                                                                                                              1619
                                                                                                             1139
                                                                                                                                                                                                                  1021
                                                                                                                                                                                                                                                                                                  1141
                                                                                                                                                                                                                                                                                                                                         1201
         721
                                                 781
                                                                                        841
                                                                                                                                 901
                                                                                                                                                                          961
                                                                                                                                                                                                                                                          1081
                                                                                                                                                                                                                                                                              1379
                                                                                                                                                                                                                                                                                                                                                                                  1261
                                                                                                                                                                                                                                                                                                                                                                                                                           1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADD22860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                    업
                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                    요
                                               ò
                                                               셤
                                                                                   ò
                                                                                                                                ò
                                                                                                                                                 a
                                                                                                                                                                        ò
                                                                                                                                                                                            g
                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                            요
```

```
The invention relates to a monospecific antibody immunologically reactive with a protein appearing as ADD22854, where the protein functions as a human histamine H3 receptor. The antibody blocks intracellular signaling cativity of the human histamine H3 receptors in response to ligand binding. The antibody is useful for detecting and quantifying expression of human histamine H3 receptors, which may be useful for diagnostic, epidemiological or forensic purposes. The antibody is potentially useful in treating diseases such as depression, anxiety, schizophrenia, Parkinson's disease, obesity, hypertension, Tourette's syndrome, sexual Alzheimer's disease, obsessive-compulsive behaviour, panic attacks, pain, eating disorders and anorexia, cardiovascular and cerebrovascular cation disorders and anorexia, arrhythmia, ulcers, asthma, allergy, inflammation, or prostate dysfunction. The present sequence is the full length cDNA encoding the histamine H3 receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTCCTCGTCGGCCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGCAGACGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCGGCGGCGCGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   359 GCGGCGGCGGCGGGGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 ATGGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                419 ATGGCGCTGCTCATCGTGGCCACGCTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCCGACTCGAGCCTCCGCACCCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCGACTCGAGCCTCCGCACCCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCATACCGGGCCCAGGGTGACACGCGGCGGCCAGTGCGGAAGATGCTGCTGGTGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New antibody against human histamine H3 receptor, preferably with receptor antagonist activity, useful for diagnostic purposes and for treating diseases such as depression, Parkinson's disease, obesity or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 ATGGAGCGCGCCCCCGACGGCCCCTGAACGCTTCGGGGGCCCTGGCGGCCGATGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Acciricedecedecercieda Aderia i de Grande de Grande de Caracia de C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCCGAGCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 2699;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 2699 BP; 404 A; 988 C; 805 G; 502 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0, Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 1335; DB 10;
100.0%; Pred. No. 3.3e-217;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                     Pyati J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example 1; SEQ ID NO 5; 25pp; English.
                                                                                                                                                                                                                                                                                                                                                                                           Huvar A,
                                                                                                                            98US-00167354.
21-AUG-2000; 2000US-00642514
                                                                                                                                                                                                                                                                                                                                                                              Lovenberg TW, Erlander M,
```

```
The present invention describes the use of polypeptides related to urological disorders for identifying a compound capable of treating a urological disorder, identifying a subject having a urological disorder, or treating a subject having a urological disorder. Also described: (1) a method for identifying a compound capable of treating a urological disorder; (2) a method for identifying a subject having a urological disorder; and (3) a method for treating a subject having a urological disorder; and (3) a method for treating a subject having a urological disorder. The compound has urological disorder sare useful for identifying a compound capable of treating a urological disorder, identifying a subject having a urological disorder. Disorders include urinary incontinence and benign prostatic related protein, which is used in the exemplification of the present
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCGGCGGCGGGGCGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Use of polypeptides related to urological disorders, e.g. 44390, 54181, 211 or for identifying a compound capable of treating a urological disorder or identifying and treating a subject having a urological
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          299 Arida Acido de Contro 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 ATGGAGCGCGCCGCCCGACGGCCGCTGAACGCTTCGGGGGCGCCTGGCGGCGATGCG
                                                                                                                                                                "urological disorder related protein 8203"
urological disorder; uropathic; cytostatic; urinary incontinence;
benign prostatic hyperplasia; human; gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 2699 BP; 404 A; 988 C; 805 G; 502 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 1335; DB 13;
Pred. No. 3.3e-217;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eliasof
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 1; SEQ ID NO 131; 542pp; English.
                                                                                                   ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Karicheti V, Silos-Santiago I,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                             2003US-0478742P.
2003US-0488529P.
2003US-0491156P.
2003US-0499594P.
                                                                                                                                                                                                                                                                                                                                                           2003US-0444783P.
2003US-0457901P.
2003US-0468775P.
                                                                                                                                                                                                                                                                                              2004WO-US000750
                                                                                                                                                                                                                                                                                                                                                                                                                           2003US-0471614P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2003US-0506332P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (MILL-) MILLENNIUM PHARM INC
                                                                                                                      299. .1636
/*tag= a
                                                                                                                                                                  /product=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 1335; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2004-562167/54.
P-PSDB; ADQ89180.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                         04-FEB-2003; 27-MAR-2003; 208-MAY-2003; 219-MAY-2003; 216-JUN-2003; 218-JUL-2003; 2
                                                                                                                                                                                                                                                                                              14-JAN-2004;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30-JUL-2003;
02-SEP-2003;
                                                             Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26-SEP-2003;
                                                                                                                                                                                                                                                                                                                                        15-JAN-2003;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠ
                                                                                                                                                                                                                                                                                                                                        1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1320
                                                                                                                                                                                                                                                                                                                                                                                                                         1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCCGCGCTCACTC 1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAGAGGGGCTCCAAGCCGTCGGCGTCCTCGCCTGGAGAAGCGCATGAAGATGGTG 1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1618
                                         540
                                                                                 838
                                                                                                                         600
                                                                                                                                                                  898
                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                    958
                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          960
TCATACCGGGCCCAGCAGGGTGACACGCGGCGGGCAGTGCGGAAGATGCTGCTGCTGTGG 778
                                                               GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                 AGCTCCATCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                       TCCCAGAGGCTTCACCCCAGGCTTTCGCCTGTCTCGGGAAAGTGGCCAAGTCGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCCATACACGCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCTG
                                                                                                                           AGCTCCATCCCCGAGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                          ACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC
                                                                                                                                                                                                                                  ATCTACCTGAACATCCAGAGGCGCACCCGCCTCGGCTGGAGGCTCGAGGGCAGCC
                                                                                                                                                                                                                                                                                                                                   ATCTACCTGAACATCCAGAGGGGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCCGTAGGCGCTGAGGCCGGGGAGGCGACCCTCGGGGGGCGGCGGTGGGGGGCGGCTCCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCGTAGGCGCTGAGGCCCGGGGAGCCACCCTCGGGGGTGGCGGTGGGGGCGGCTCCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAGAGGGGCTCCAAGCCGTCGGCGTCCTCGGCCTGGAGAAGAGCGCATGAAGATGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCGTCATCGTGAGCATCTTTGGGCCTCTGCTGGGCCCCCATACACGCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCACAGCTTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTGTGGGCCAACTCGGCTGTCTGTGTCTCTACCCTCTGTGCCACCACACGCTTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG
                                                                                                                                                                                                                                                                                                                                                                                 GGCCCGAGCCCCTCCCGAGGCCCAGCCCTCACCACCCCCCACGCCTGGCTGCTGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCTCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGGACAGGAAGTGGCCAAGTCGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human urological disorder related protein 8203 encoding cDNA SEQ:131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADQ89179 standard; cDNA; 2699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAGCACTGCTGGAAG 1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21-OCT-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                         1019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1559
                                                                                                                      541
                                                                                                                                                                839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1321
719
                                                                               179
                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                  899
                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                     959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1619
                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1021
                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADQ89179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADQ89179
ID ADQ8
XX
XX
AC ADQ8
XX
XX
DT 21-C
XX
DE Huma
                                                                                                                                                                                                                                                                                                                                 g
                                                                        g
                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                         요
                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                     Š
                                                                                                         ò
                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
```

ö

Gaps

358

g

8

셤

ò

g

ò

ద

ò

g

ð

8 6 8

ò

8 8 8 8

ò

g

a

8

g

ò

셤

ò

g

à

q

ò

B & B & B

ò

```
CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG 1320
                                                 1559 CGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCCACAGCTCCCTG 1618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present invention provides a human histamine H3 receptor protein and uncleic acid encoding such protein. The invention is useful for identifying compounds that modulate the activity of human histamine H3 receptor. The invention is useful for treating a condition that is mediated by a human histamine H3 receptor in a patient and for treating Parkinson's disease, obesity Alzheimer's disease, pain, stress, ulcers, constipation and non-insulin dependent diabetes mellitus. The present
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human; Parkinson's disease; obesity; Alzheimer's disease; pain; stress; ulcer; constipation; non-insulin dependent diabetes mellitus; gene; ss; histamine H3 receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Novel isolated and purified human histamine H3 receptor protein useful for identifying modulators utilized for treating Parkinson's disease, obesity, Alzheimer's disease, pain, stress or ulcers.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Human histamine H3 receptor protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 2699 BP; 404 A; 988 C; 805 G; 502 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%; Score 1335; DB 13;
100.0%; Pred. No. 3.3e-217;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sequence is a human histamine H3 receptor cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ۵,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pyati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ä,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 2; SEQ ID NO 5; 26pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                   Human histamine H3 receptor cDNA #1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Huvar
                                                                                                                                                                                                                                                                                       BP.
                                                                                                                                                                                                                                                                                       ADR31456 standard; cDNA; 2699
                                                                                                                     GAGCACTGCTGGAAG 1335
                                                                                                                                                                    GAGCACTGCTGGAAG 1633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            07-OCT-1998; 98US-00167354.
21-AUG-2000; 2000US-00642852.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             02-DEC-2003; 2003US-00727021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    299. .1636
/*tag= a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Σ̈́
                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /*tag= a
/product=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ouery Match 100.
Best Local Similarity 100.
Matches 1335, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Lovenberg TW, Erlander
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (LOVE/) LOVENBERG T W. (ERLA/) ERLANDER M. (HUVA/) HUVAR A. (PYAT/) PYATI J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2004-592726/57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                P-PSDB; ADR31458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US2004156845-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                      04-NOV-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12-AUG-2004
                        1261
                                                                                                                  1321
                                                                                                                                                                    1619
                                                                                                                                                                                                                                                                                                                                      ADR31456;
                                                                                                                                                                                                                                        RESULT 13
ADR31456
                                                                                                                                                                                                                                                                                            g
                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         720
                                               240
                                                                                              538
                                                                                                                                           300
                                                                                                                                                                                        598
                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                       658
                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                   718
                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 900
                                            GCCGACTCGAGCCTCCGCACCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC
                                                                                                                                                                    TTCCTCGTCGGCGCCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                        ACCTTCGGCCGGGCCTCTGCAAGCTGTGGCTGGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                   rendecerreaacaredrecrearcageracdacedecrecrereresereacedecedec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACGCCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   recreacadadescaceses de accestraces caracadorar de actual de actual
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGAGGGCTCCAAGCCGTCGTCCTCGGCCTCGCTGGAGAAGCGCATGAAGATGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCCCAGAGCTTCACCCCAGGCTTTCGGCTGTCTCGGGAAAGTGGCCAAAGTCGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCCATACACGCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGGGCCCCCCCCACGCCCCCCGCCCCCGACTACTGCTACGAAACCTCCTTCTGGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1439 CGGGCCGCCTGCCATGGCCATCGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTC
ATGGCGCTGCTCATCGTGGCCACGGTGCTGGCCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                        GCCGACTCGAGCCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCCGAC
                                                                                                                                           TICCICGICGCGCCTICIGCAICCCACTGIAIGIACCCIACGIGCIGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCATACCGGGCCCAGCAGGGTGACACGCGGCGGCAGTGCGGAAGATGCTGCTGGTGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGCTGGCAGAAGGGGCACGGGGAGGCCATGCCGCTGCACAGGTATGGGGTGAGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCGTAGGCGCTGAGGCCGGGGAGCCGTCGGGGGGTGGCGGTGGGGGCGGCTCCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGCCACTGAGAGGCCGCGCTCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAGAGGGGCTCCAAGCCGTCGGCGTCCTCGGCCTTGGAGAAGCGCATGAAGATGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCCAAGTCGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTTGTGCCACCACCACGCTTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            crereseccaacresecrereacerererererererereresecaceaecarecee
                                                                                                                                                                                                                                                                                                                                      TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                     TCATACCGGGCCCAGCAGGGTGACACGCGGCGGCAGTGCGGAAGATGCTGCTGGTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTGCTGGCCTTCCTGCTGCTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGCCCCGAGCCCCTCCCGAGGCCCTAGCACCCCCCACCCCCTGGCTGCTGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                            181
                                                                                         479
                                                                                                                                           241
                                                                                                                                                                                        539
                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                       599
                                                                                                                                                                                                                                                                                                                                                                                   629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            961
                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  481
```

```
Transgenic mouse; neurological disorder; adrenal gland disorder;

Transgenic mouse; neurological disorder; adrenal gland disorder;

Colon disorder; intestinal disorder; adrenal gland disorder;

Colon disorder; blood disorder; immune disorder; bone disorder;

Muscular disorder; metabolic disorder; mutritive disorder; cancer;

Widney disorder; uterus disorder; prostate disorder; testis disorder;

W vowary disorder; uterus disorder; prostate disorder; spleen disorder;

Kinnes disorder; antimated disorder; antiparkinsonian; antimanic;

CNS; central nervous system; respiratory; antidiarrhoeic; antidiabetic;

Vircide; hepatotroppic; antibarderial; antidarrhoeic;

Vircide; hepatotroppic; antidaterial; antidarrhoeic;

W dermatological; antiulcer; antithyroid; antiallergic; anorectic;

M dermatological; antiulcer; antithyroid; antiallergic; anorectic;

M mmunosuppressive; nephrotropic; gene therapy; GPCR modulator; human;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The invention relates to human and mouse G protein-coupled receptors (GPCRs) and nucleic acids encoding them. The invention also relates to sequences at least 90% identical to the GPCR proteins and nucleic acids
                                            cesecceccreccardeccacrecercecracracracracracaaaaccrecrreresere
                                                                                                                                                   CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG
                                                                                                       CTGTGGGCCAACTCGGCTGTCAACCCTGTCTACCCTCTGTGCCACCACAGCTTCCGC
                                                                                                                                   CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG
                                                                          CTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCACCAGCTTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Novel mammalian G protein coupled receptors, useful for identifying compounds that modulates diagnosing and treating disease condition associated with GPCR dysfunction e.g. autoimmune diseases, angina
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Zeng
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hohmann J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaitanaris GA, Bergmann JE, Gragerov A, Hohmann J,
Madisen L, Mcilwain KL, Pavlova MN, Vassilatis D,
                                                                                                                                                                                                                                                                                                                                                                                         Human GPCR HRH3 polynucleotide, SEQ ID NO:1068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 151; SEQ ID NO 1068; 542pp; English.
                                                                                                                                                                                                                                                                                                   BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              pectoris, Parkinson's disease.
                                                                                                                                                                                                                                                                                                   ADO29966 standard; cDNA; 1338
                                                                                                                                                                                              GAGCACTGCTGGAAG 1335
                                                                                                                                                                                                                        1619 GAGCACTGCTGGAAG 1633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2002US-0409303P.
2003US-0461329P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       09-SEP-2003; 2003WO-US028226
                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2004-390329/36.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (PRIM-) PRIMAL INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P-PSDB; ADO29494.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO20040400000-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   09-SEP-2002;
09-APR-2003;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                             29-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13-MAY-2004
                                                                                                      1499
                                                                                                                                                                1559
                                            1439
                                                                                                                                   1261
                 1141
                                                                          1201
                                                                                                                                                                                              1321
                                                                                                                                                                                                                                                                                                                                ADO29966;
                                                                                                                                                                                                                                                                                     AD029966
                                                                                                                                                                                                                                                                     RESULT
                                      요
                                                                                              g
                                                                                                                                                             g
                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                  ò
                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1379 GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATC 1438
418
                                                                                        180
                                                                                                                     478
                                                                                                                                                   240
                                                                                                                                                                              538
                                                                                                                                                                                                          300
                                                                                                                                                                                                                                        598
                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                 658
                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                            718
                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                    778
                                                                                                                                                                                                                                                                                                                                                                                                                                                    540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          960
                                                                                                       ATGCCCTGCTCATCGTGGCCACGTGCTGGCAACGCGCTGGTCATGCTCGTG
                                                                                                                                                                                                         TTCCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                         ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGCTCCATCCCCGAGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1139 GCCGTAGGCGCTGAGGCGGAGGCGACCCTCGGGGGGTGGCGGTGGGGGGGCGCCTCCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAGAGGGGTTCCAAGCCGTCGTCCTCGGCTTGGAGAAGCGCATGAAGATGGTG
                                            ATGGCGCTGCTCATCGTGGCCACGGTGCTGGCCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                   GCCGACTCGAGCCTCCGCACAGCAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC
                                                                                                                                                                  GCCGACTCGAGCCTCCGCACCCCAGAACTTCTTCCTGCTCAACCTCGCCATCTCCCGAC
                                                                                                                                                                                                                                                                    ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                          rerecerreacerecrearcaceraceaceerrecrereresereaceere
                                                                                                                                                                                                                                                                                                                                                                                                                       TCATACCGGGCCCAGCAGGGTGACACGCGGCGGCAGTGCGGGAAGATGCTGCTGGTGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1079 TGCTGGCAGAAGGGGCACGGGGAGGCCATGCCGCTGCACAGGTATGGGGTGAGGTGAGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCGTAAGGCGCTGAGGCCGGGGAGCGACCCTCGGGGGTGGCGGTGGGGGCGGCTCCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCTCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAGAGGGCCTCCAAGCCGTCGCCTCCGCCTCGCTGGAGGAGCGCATGAAGATGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG
                                                                                                                                                                                                                                      TCATACCGGGCCCAGCAGGGTGACACGCGGCGGCAGTGCGGAAGATGCTGCTGGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGCTCCATCCCCGAGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACGCTTCCACCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGCCCCGAGCCCCTCCCGAGGCCCAGCCCTCACCACCCCCACCGCCTGGCTGCTGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGCTGGCAGAAGGGGCACGGGAGGCCATGCCGCTGCACAGGTATGGGGTGAGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCTCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCCGTCATCGTGAGCATCTTTGGGCTCTGGCTGGGCCCCATACACGCTGCTGATGATCATC
                             CCGCCGCGCGCCGCGCGCGCGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1319
299
                                                          359
                                                                                     121
                                                                                                                    419
                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                               599
                                                                                                                                                                                                                                                                                                                                                            629
                                                                                                                                                                                                                                                                                                                                                                                                                     719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                 181
                                                                                                                                                                           479
                                                                                                                                                                                                                                      539
                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1081
                             61
                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    961
                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                         유
                                                                                                                                                                                                                                                                                                                                                                                                             පු
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 6
                           ઠ
                                                 ያ
የ
                                                                                                            g
                                                                                                                                                                    g
                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                ઠ
                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   쉱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
```

of the invention; methods of treating, preventing or diagnosing diseases associated with GPCRs of the invention; methods of screening for compounds useful in the treatment of GPCR related diseases; a transgenic compounds useful in the treatment of GPCR related diseases, a transgenic mouse comprising a GPCR gene of the invention; a mouse comprising defect transgene or in an endogenous GPCR gene; cells derived from the transgenic mice; kits comprising several mice, each of which has a mutation in a different GPCR gene of the invention. The comprising a GPCR polymorlectides of the invention. The comprising a GPCR mucleic acid. The GPCR polypeptides and vectors comprising a GPCR mucleic acid. The GPCR nucleic acid and proteins may be used in the diagnosis, treatment or prevention of a wide variety of diseases including neurological disorders (e.g., Alzheimer's disease, disease). Geopression, diabetic neuropathy, Parkinson's disease or schizophrenia); disorders of the adrenal gland; disorders of the colon or intestine compounds of the adrenal gland; disorders of the colon or intestine compounds or leukaemia); immune disorders (e.g., autoimmune disorders or myccardial infarction); muscular disorders; blood disorders or myccardial infarction); muscular disorders (e.g., autoimmune disorders or anaemia or leukaemia); immune disorders (e.g., autoimmune disorders or ADIS); bone and joint disorders (e.g., osteoarthritis, gout or osteoporosis); metabolic or nutritive disorders or thermitis, gout or osteoporosis; metabolic or nutritive disorders of the kidney, liver, lung, breast, ovary, uterus, prostate, testis, skin, stomach, pancreas, spleen, thymus and thyroid (e.g., cancers). The present sequence represents a GPCR-encoding mucleic acid of the invention. Note: The full sequence data for this those sequences patent did not form part of the printed specification; those see not shown were obtained in electronic format directly from WIPO ftp.wipo.int/pub/published_pct_sequences. 8599999999999999999999999

Sequence 1338 BP; 193 A; 476 C; 418 G; 251 T; 0 U; 0 Other;

120 120 180 180 240 240 300 300 360 360 420 420 480 480 540 540 900 9 9 ATGGCGCTGCTCATCGTGGCCACGGTGCTGGCTGGTCATGCTCGTG TTCCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCGCCTGG ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGGCTGGTAGTGGACTACCTGCTGTGCACCTCC TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACGAGCGGTC AGCTCCATCCCGGGGGGCCACTGCTATGCGGGTTCTTCTACAACTGGTACTTCCTCATC ATGGAGCGCGCGCCCGCCCGACGGCCGCTGAACGCTTCGGGGGCGCTGGCGGCGGGGCG ATGGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTG GCCGACTCGAGCCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTGGACTACCTGCTGTGCACCTCC TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC TCATACCGGGCCCAGCAGGGTGACACGCGGCGGGCAGTGCGGGAAGATGCTGCTGGTGG TCATACCGGGCCCAGCAGGGGGAACACGCGGCGGGCAGCGCGGAAGATGCTGCTGGTGTGG GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC Grecrescerrecrearecesaceascerecrescerescastraces ATGGAGCGCGCCGCCCGACGGCCGCTGAACGCTTCGGGGGCGCCTGGCGGCGCGCGATGCG GCGGCGGCGGGGGGCGCGCGTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTC TTCCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG 99.9%; Score 1333.4; DB 12; Length 1338; 99.9%; Pred. No. 6.1e-217; ive 0; Mismatches 1; Indels 0; .; 0 Best Local Similarity 99.9 Matches 1334; Conservative Н 121 181 61 121 481 481 Query Match 61 241 301 361 421 421 541 181 241 301 361

셤

ò g ઠે

ò 셤 임 ò g ò

ઠે

a

임 ઠે

à

qq	541 AGCTCCATCCCCGAGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC 600	0
Οy	AGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGGGTCACCTTCTTTAACCTCAGC 66	0
QQ	99 2	0
ò	661 ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCC 720	
q	72	0
ò	1 GGCCCGAGCCCCTCCCGAGGCCCAGCCCTCACCACCACCGCTGGCTG	
đ	78	0
δ	781 IGCIGGCAGAAGGGGCACGGGAGGCCAIGCCGCTGCACAGGTAIGGGGTGGGTGGGGGG 840	0
qu	84	0
ò	GCCGTAGGCGCTGAGGCGAGGGAAGCGACCTCGGGGGTGGCGGTGGGGGGGCGGCTCCGTG 90	0
qq	90	0
δ		0
qu	96	0
ď	961 AAGAGGGCTCCAAGCCGTCGCGTCTCGCTCGCTCGAGAAGCGCATGAAGATGGTG 102	20
qq	10	20
à á	1021 TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG 108	80
3 8	1 こくてくからからでは、これでしているのでは、これでは、これでは、これでは、これでは、これでは、これでは、これでは、これ) 4
ò ·		
ρģ	11	40
λο	CGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTC 12	0
qa	2 12	
ò	1201 CTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTGTGCCACCACACACA	9
q o	12	9
ζ	1261 CGGGCCTTCACCAAGCTGCTCCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG 132	20
ορ	gggccricaccaagcrgcrcrcccagaagcrcaaaarccagccccacagcrccrg 13	20
ò		
qa	CACTGCTGGAAG 133	
RESI	ULT 15	
¥ A \$	AAX8457	
,	AAX84	
{	14-SEP-1	
SES		
K K K K K	Guanosine triph G-protein conju muscarinic acet; blood pressure;	
X 83		
PN N	WO9933978-A1.	

20 980 980 40 140 200 200 560 92 320

```
871
                                                                                                          931
                                                                                                                                                                                                                                                                                                                                 1231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1531
 541
                    811
                                          601
                                                                                     661
                                                                                                                                                    991
                                                                                                                                                                                                1051
                                                                                                                                                                                                                                           1111
                                                                                                                                                                                                                                                                                      1111
                                                                                                                                                                                                                                                                                                             961
                                                                                                                                                                                                                                                                                                                                                        1021
                                                                                                                                                                                                                                                                                                                                                                             1291
                                                                                                                                                                                                                                                                                                                                                                                                   1081
                                                                                                                                                                                                                                                                                                                                                                                                                                             1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1321
                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                                                                                                       1351
                                                                                                                               721
                                                                                                                                                                                                                      841
                                                                                                                                                                                                                                                                 901
                                                                                                       g
                                                                                                                                             q
                                                                                                                                                                                          ద
                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                     8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                .
අු
                                          ઠે
                                                         셤
                                                                                 ò
                                                                                                                            8
                                                                                                                                                                        ö
                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                       This sequence encodes the human guanosine triphosphate binding protein (Grprotein) conjugate-type receptor protein (designated BG2) of the invention. BG2 is a member of the G-protein conjugate-type receptor super family and shows significant homology to other muscarinic acetylcholine receptors. BG2 can be used in a screening method for identifying ligands binding to the BG2 receptor and for compounds which are agonists or antagonists to the binding of ligands to BG2 receptor, and which can be used for the regulation of signal transduction, and thus for the prevention and treatment of memory and learning difficulties and disorders of the control of physiological functions such as blood pressure, digestion and sleep
                                                                                                                                                                                                                                                                                                                                                                                                                                330
                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           810
                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGAACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCGGGGGGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GIGCIGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                             ATGCCCTCCTCATCGTGGCCACGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCGACTCGAGCCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTCCTCGTCGCCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCATACCGGGCCCAGCAGGGTGACACGCGGCGGCAGTGCGGAAGATGCTGCTGGTGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCATACCGGCCCAGCAGCAGGTGACACGCGGCGGCAGTGCGGAAGATGCTGCTGGTGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCGGCGGCGCGCGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATGGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCCGACTCGAGCCTCCGCACCCAGAACAATTCTTCCTGCTCAACCTCGGCCATCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                       0; Gaps
                                                                                                                                                   GTP binding protein conjugate-type receptor protein for screening candidate drugs for signal transduction modification.
                                                                                                                                                                                                                                                                                                                                                                Query Match 99.8%; Score 1312.4; DB 2; Length 2050; Best Local Similarity 99.9%; Pred. No. 9.1e-217; Matches 1333; Conservative 0; Mismatches 1; Indels 0;
                                                                                                                                                                                                                                                                                                                                             Sequence 2050 BP; 310 A; 682 C; 650 G; 408 T; 0 U; 0 Other;
                                                                                               Ohta
                                                                                               Nakamura T,
                                                                                                                                                                                    Claim 2; Page 67-72; 77pp; English.
                                98WO-JP005967
                                                    97JP-00361187
                                                                         (BANY ) BANYU PHARM CO LTD
                                                                                               Takimura T,
                                                                                                                   WPI; 1999-419107/35.
P-PSDB; AAY22208.
                                25-DEC-1998;
                                                                                               Itadani H,
                                                                                                                                                                                                                                                                                                                                                                                                                                   271
                                                                                                                                                                                                                                                                                                                                                                                                             н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             511
                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          751
셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ሯ
                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             è d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ⋧
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
```

1290 1350 1140 1410 1200 1470 1260 AAGAGGGGCTCCAAGCCGTCGGCGTCCTCGCCTGGAGAAGCGCATGAAGATGGTG 1020 999 930 990 780 840 900 960 870 720 TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAGAAGTGGCCAAGTCGCTG GCCGTCATCGTGAGCATCTTTGGGCTCTGGGCCCCCATACACGCTGCTGATCATC GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATC AGAGGGCTCCAAGCCGTCGGCGTCCTCGGCTCGCTGGAGAAGCGCATGAAGATGGTG CGGCCCCCTGCCATGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTC CTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTCTGTGCCACCACACGTTCCGC CTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCACAGCTTCCGC GCCGTAGGCGCTGAGGCCGGGGAGGCGACCCTCGGGGGTGGCCGGTGGGGGCGGCTCCGTG GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCGCTCACTC GGCCCCGAGCCCCTCCCGAGGCCCAGCCCTCACCACCCCCCACCGCCTGCTGGGGGC

Search completed: June 2, 2005, 06:01:47 Job time : 715.507 secs THIS PAGE BLANK (USPTO)

Н

```
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
```

OM nucleic - nucleic search, using sw model

Run on:

June 2, 2005, 05:10:00 ; Search time 4400.8 Seconds (without alignments) 11546.944 Million cell updates/sec

US-10-727-021-6 1335 1 atggagcgcgcccga......ccctggagcactgctggaag 1335 Title: Perfect score: Sequence:

34239544 seqs, 19032134700 residues Searched:

IDENTITY NUC Gapop 10.0 , Gapext 1.0

Scoring table:

68479088 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

EST:* Database :

gb_est1: gb_htc: * gb_est2: * gb_est4: * gb_est6: * gb_est6: * gb_gss1: *

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Description	CF147822 AGENCOURT B1731453 603354331 CM523054 170004245 CB55620 AMGRNUC:U BE783826 601471053 CB611519 AMGRNUC:N BN54866 AGENCOURT BF567596 UI-R-B00-AM669811 113386 MA BQ950659 AGENCOURT BQ06885 AGENCOURT BQ06886 AGENCOURT CQ403631 AGENCOURT BY27560 BY27560 CB72516 AMGNUC:S CB72516 AMGNUC:CU CR725516 AMGNUC:CU CR725516 AMGNUC:CU CR725516 AMGNUC:CU CR72609 104607 MA AM654609 104607 MA AM654609 104607 MA AM654609 104607 MA AM654409 103977 MA AM234292 TELTAOGON BB592940 BB592940	
	CF117822 B1731453 CN422054 CN422054 CN5256920 BE7639826 CN611519 BM58665 BR567596 AM669811 BN727560 CN203631 BY277560 CN203631 CN2758850 CN2758850 CN326085	
DB	 	
Length	2010 1010	
% Query Match	200 4 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	
Score	2 4 4 5 1 1 6 1 7 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8	
Result No.	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	

C580463 CH240_375	4934 Homo Bapi	3U147486 AGENCOURT	4935 Pan trogl	3M805220 AGENCOURT	6991 AL536991	3M548382 AGENCOURT	5879 AGENCOURT	4672 pgfln.pk0		CD804122 UI-M-GVO-	AK081248 Mus muscu	CV026860 4931 Full		7142 AGENCOURT	3X355053 BX355053	3R366545 CR366545	W327105 20622 MAR	AL178693 Tetraodon	3X424634 BX424634	3K958826 4099592 B
CC28(AY404934	BU147	AY404935	BM80	AL536991	BM548	CB565879	BI064672	BC035047	CD80	AKOB	CA05(AL537084	BM907142	BX35	CR36	AW32'	AL176	BX42	CK95
CC580463	AY404934	BU147486	AY404935	BM805220	AL536991	BM548382	CB565879	BI064672	BC035047	CD804122	AK081248	CV026860	AL537084	BM907142	BX355053	CR366545	AW327105	CNS022VG	BX424634	CK958826
775 9	1440 9	916 5	1440 9	1048 4	975 1	1078 4	855 6	650 4	2410 3	795 6	3816 3	623 7	812 1	1108 5	952 5	727 7	206 2	1037 9	887 5	732 7
												12.3								
174.4	173.6	173.4	172.4	172.2	171.6	171.6	169.8	167.6	166.4	165.8	165.2	164.2	164.2	164.2	162	161.8	161.2	160.2	159.4	159.2
	9	7	8	0	0	_	2	e	4	'n	9	7	8	0	0	_	7	٣	4	'n

ALIGNMENTS

CF147822 AGENCOURT_14740187 NIH_MGC_145 Homo sapiens cDNA clone CF147822 CF147822 GI:33244090 EST Homo sapiens (human) Homo sapiens Butarayota, Metazoa, Chordata, Craniata, Vertebrata; Buteleostomi, Butaroa, Chordata, Craniata, Vertebrata; Buteleostomi,	nci.nih.gov Gerhard, E Gerhard, E nomics titute / N1 thesda, MD 1.nih.gov GECR CONSC GECR CONSC GABOY: THE AGENCOUTE MGC GlONE MAGG.E. O OV CON COLUMN: CON CON COLUMN: CON CON COLUMN: CON COLUMN: CON COLUMN: CON CON COLUMN: CON CON COLUMN: CON CO	
RESULT 1 CF147822 LOCUS DOCUS DEFINITION ACCESSION VERGION VERGION VERGION CERGION CORGANISM CORGANISM	REFERENCE AUTHORS TITLE JOURNAL COMMENT	FEATURES

ğ

```
/notes="Organ: eye; Vector: pCMV-SPORT6; Site 1: NotI; Site 2: SalI; Cloned unidirectionally; oligo-dT primed. Average insert size 3:3 % bb. Library enriched for full-length clones and constructed by Life Technologies. Note: this is a NIH_MGC Library."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    537 CATGATCATCCGGGCTGCTTGCCATGGCCACTGCGTCCCCGACTACTGGTACGGAAGACGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTTCTGGCTCCTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTTCTGGCTTCTGTGGGCCAACTCGGCCGTCAACCCCGTCCTACCCACTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 CTCATCACGGCCTCCACCCTCGAGTTCTTCACACCCTTCCTCGGCGTTACCTTCTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGCAGCCGGCCCCCGAGCCCCTCCCGAGGCCCAGCCCTCACCACCCCCCA - - - CCGCCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTGCTGGGGCTGCTGGCAGAAGGGGCACGGGAGGCCATGCCGCTGCACAGGTATGGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGGTGAGGCGCCCGTAGGCGCTGAGGCCGGGGAGGCGACCCTCGGGGGGTGGCGGTGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                237 GGGTGAGGCAGGCCCTGGTGTTGAGACTGGGAGGCTGGCCTCGGGGGTGGCAGCGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGGCTCCGTGGCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCGCTCACTCAAGAGGGGCTCCAAGCCGTCGGCGTCCTCGGCTCGCTGGAGCGCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       357 ACCTCACTCAAAAGGGGCTCCAAGCCATCAGCGTCTTCAGCGTCCTTGGAGAAGGCGCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAAGATGGTCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                417 GAAGATGGTATCCCAAAGCATCACCCAGCGCTTTCGGCTGTCGCGGGACAAGAAGGTAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAAGTCGCTGGCCGTCATCGTGAGCATCTTTGGGCCTCTGCTGGGCCCCCATACACGCTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 477 CAAGTCGCTGGCTATCATCGTGAGCATCTTTGGGCCTCTGCTGGGCCCCGGTACACACTCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GATGATCATCCGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTCATCACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C-TCAGCATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGA
                                                               DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution and Cound through the I.M.A.G.E. Consortium/LiNL at:
http://image.llnl.gov
Plate: LiAM11920 row: m column: 07
High quality sequence stop: 811.
Location/Qualifiers
Email: cgapbs-r@mail.nih.gov
Issue Procurement: The Cepko Laboratory
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
                                                                                                                                                                                                                                                                                                                                                                                                                                40.6%; Score 541.8; DB 4; Length 890; 86.6%; Pred. No. 7.2e-98; ive 0; Mismatches 92; Indels 8
                                                                                                                                                                                                                                                                /tissue_type="retina"
/lab_host="DH10B (phage-resistant)"
/clone_lib="NIH_MGC_94"
                                                                                                                                                                                  1. .890
/organism="Mus musculus"
                                                                                                                                                                                                                  /mol_type="mRNA"
/db_xref="taxon:10090"
                                                                                                                                                                                                                                                   'clone="IMAGE:5361966"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  645; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1071
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1131
                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                     source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 890 bp mRNA linear EST 20-SEP-2001
s musculus cDNA clone IMAGE:5361966 5',
                                                                                                                                                                                120
                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                136
                                                                                                                                                                                                                                                                                 196
                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                 256
                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                316
                                                                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 676
                                                                                                                    9
                                                                                                                                                 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. 1 (bases 1 to 890)

NIH-MGC http://mgc.ncl.nih.gov/
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
                                                                                                                                                                                  GCGGCGGCGGGGGCGCGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCGCTC
                                                                                                                                                                                                                                                                                                               GCCGACTCGACCTCCGCACCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCGGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCTTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCGGCGGCGGGGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTC
                                                                                                                                                                                                                                               ATGCCGCTGCTCATCGTGCCACGTGCTGGCCAACGCGCTGGTCATGCTCGCTTCGTG
                                                                                                                                                                                                                                                                                GCCGACTCGAGCCTCCGCACCAGAACTACTTCTTCCTGCTCAACCTCGCCATCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                 TTCCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCATACCGGGCCCAGCAGGGTGACACGCGGCGGCAGTGCGGAAGATGCTGCTGGTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GIGCTGGCCTICCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC
                                                                                                                 Gaps
                                                                                   ;
                                               Length 732,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGG 705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATCTACCTGAACAT-CAGAGGGGCACCCGCCTCCGGCTGATGGGG 720
                                                                                10; Indels
Note: this is a NIH MGC Library."
                                               Score 677; DB 7; I Pred. No. 7.1e-125;
                                                                                  0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BI731453
603354331F1 NIH_MGC_94 Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mus musculus (house mouse)
Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GI:15708466
                                              50.78;
                                                                 Best Local Similarity 98.4
Matches 694; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mRNA sequence.
BI731453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BI731453.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EST
                                                                                                                                                                                                                                                                                                                                                                                                                257
                                                                                                                                               17
                                                                                                                                                                                61
                                                                                                                                                                                                               11
                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                137
                                                                                                                                                                                                                                                                                                                                               197
                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               677
                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  541
                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BI731453
               ORIGIN
                                                                                                                 ò
                                                                                                                                       유
                                                                                                                                                                              ò
                                                                                                                                                                                                           g
                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                         엄
                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
```

4

Gaps

.. 8

1070

476

1010

356

416

890

296

830 236

770

177

713 120

9

1190

536

1250

959

g

Š

g

```
AMGNNUC:URGP1-00001-D6-A urgpl (14349) Rattus norvegicus cDNA clone urgp1-00001-d6 5', mRNA sequence.
CB556920
CB556920.1 GI:29496320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         238
                                                                                                        699
                                                                                                                                                           620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                    729
                                                                                                                                                                                                                                                                    621 AACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCCGGCCCCGAG 680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 GOGGCGGCGGGGGGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               299 GCGGATICGAGCCICCGCACACCAGAACAACTICITICTGCICAACCICGCCATCTCCGAC 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                359 TICCTCGTGGGTGCCTTCTGCATCCCATTGTACGTACCCTATGTGCTGACCGGCCGTTGG 418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rattus norvegicus (Norway rat)
Rattus norvegicus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                        561 ACCCIGGAGITCITIACGCCCITCCTCAGCGTCACCITCTTTAACCTCAGCATCTACCIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          One Amgen Center Drive, Thousand Oaks, CA 91320-1799, USA Tel: 805 447-4881
Plate: 00001 row: d column: 6.
Location/Qualifiers
1. 672
| Capanism="Rattus norvegicus" | Mol Lype="mRNA" | Mol Lyp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 179 GCGGCTGCAGGCGCGCGCCTTCTCGGCTGCCTGGACCGCTGTCTGGCTGCGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCACGGCTTCC
                                  501 CCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCACGGCTTCC
                                                                                                                                                                                                                 670 AACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCCGGCCCCGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCCGACTCGAGCCTCCGCACCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Trecresesescriteresatesearcearistaterasestaseseseseses
                                                                                                           610 ACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCATCTACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            34.7%; Score 462.8; DB 6; Length 672; 89.7%; Pred. No. 4.2e-82; ive 0; Mismatches 57; Indels 0
                                                                                                                                                                                                                                                                                                                          Amgen EST Program.
Amgen Rat EST Program
Unpublished (2003)
Contact: Dan Fitzpatrick
Amgen, Inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity 89.7
Matches 497; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rattus.
  550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 4
CB556920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORIGIN
                                             g
                                                                                                        δ
                                                                                                                                                셤
                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                    임
                                                                                                                                                                                                                                                                                                                                ሯ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.

E. (Bases I to 716)

B. randenberger, R., Wei, H., Zhang, S., Lei, S., Murage, J., Fisk, G.J., Li, Y., Xu, C., Fang, R., Guegler, K., Rao, M.S., Mandalam, R., Lebkowski, Jand Stannton, L.W.

Transcriptome characterization elucidates signaling networks that control human ES cell growth and differentiation

Nat. Biotechnol. 22 (6), 707-716 (2004)

Regenerative Medicine
Geron Coxporation

230 Constitution Drive, Menlo Park, CA 94025, USA

Tel: 650 473 7760
                            1310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Homo sapiens"
Mol Lype="mRNA"
/db xref="taxon:5006"
/tissue_type="embryonic stem cells, cell lines H1, H7, and
                                                                                                                                                                                                                                                                                                                             CN423054 716 bp mRNA linear EST 16-MAY-2004
17000424504731 GRN_ES Homo sapiens cDNA 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          369
                                                                            716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="oligo dT_primed, full-length enriched cDNA library from undifferentiated hES cell lines H1 (p32), H7 (p29), and H9 (p26) maintained in feeder-free conditions"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCCTCTGCCTTTC 320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTCATACCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCCAGGAGGTGACACGCGGCGGCAGTGCGGAAGATGCTGCTGCTGTGGGGTGCTGGTCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGGAGCTCCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCCTGCTGTACGGACCAGCCATCCTGAGCTGGAGTACCTGTCCGGGGGCAGCTACCATC
                                                                            657 CAGCTTCCGTAGAGCCTTCACCAAGCTCCTCTGCCCCCAGAAGCTCAAGGTCCAGCCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGCGCCTTCTGCATCCCACTGTATGTACCTACGTGCTGACAGGCCGCTGGACCTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          310 CGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCCTCTGCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTCATACCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 38.7%; Score 516; DB 7; Length 716; Best Local Similarity 100.0%; Pred. No. 1e-92; Matches 516; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Email: rbrandenberger@geron.com
Insert Length: 716 Std Error: 0.00
Location/Qualifiers
                                                                                                                                  1311 CAGCTCCCTGGAGCACTGCTGGAAG 1335
                                                                                                                                                              717 TGGCTCCCTGGAGCAGTGCTGGAAG 741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /clone_lib="GRN_ES"
                                                                                                                                                                                                                                                                                                                                                                                                             CN423054.1 GI:47410648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                      CN423054
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            430 (
                         1251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  381
                                                                                                                                                                                                                                                                       RESULT 3
CN423054
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORIGIN
```

셤

ð

셤

ò g

ò

ઠે g ò us-10-727-021-6.rst

요 ò g ò g a

ò

à

```
547 bp mRNA linear EST 07-APR-2003 AMCNNUC:NRHY3-00179-H8-A W Rat hypothalamus (10735) Rattus norvegicus cDNA clone nrhy3-00179-h8 5', mRNA sequence. CB611519.1 GI:29571407 EST.
                                                                                                                                      1118
                                                                                                                                                                                                                 1178
                                                                                                                                                                                                                                                                                          1238
                                                             1058
                                                                                                                                                                                                                                                                                                                                                                    TCTGTGCCACACACCTTCCGCCGGGCCTTCACCAAGCTGCTCTGCCCCAGAAGCTCAA 1298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3
                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                              360
                       120
                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ---GCTGGCCCAGAACCCCCAGCACCAGATGCCCAGCCCTCGCCACCTCCAGCTCCCCCCAGG 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 crcascarcraccreaacarccasasseccacceccrescrescresses
CACTGAGAGGCCGCGCTCACTCAAGAGGGGCTCCAAGCCGTCCTCGGCTCCTCGGCT
                                                                                                                                                                                                                                                                                                                                                                                         121 GGAGAAGCGCATGAAGATGGTGTCCCAGAGCTTCACCCCAGCGCTTTCGGCTGTCTCGGGA
                                                                                                                                                                                                                                     24.1 ATACACGCTGCTGATGATCATCCGGGCCGCCTGCCTTGGCCTGCGTCCCTGACTACTG
                                                                                                                                                                                                                                                                                                                              301 GTACGAAACCTCCTTCTGGCTCCTGTGGGCCAACTCGGCTGTCAACCCTGTCCTAACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        655 CTCAGCATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCCTCGAGAG
                                                                                                                                        CAGGAAAGTGGCCCAAGTCGCTGGCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCC
                                                                                                                                                                            181 CAGGAAAGTGGCCAAGTCGCTGGCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGCCCCC
                                                                                                                                                                                                                 1119 ATACACGCTGCTGATGATCATCCGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTAGTG
                                                                                                                                                                                                                                                                                          GTACGAAACCTCCTTCTGGCTCCTGTGGGCCAACTCGGCTGTCAACCCTGTCCTACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  715 GCAGCCGGCCCCGAGCCCCCTCCCGAGGCCCAGCCCTCACCACCCCCCA---CCGCCTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    One Amgen Center Drive, Thousand Oaks, CA 91320-1799, USA Tel: 805 447-4881
Plate: 00179 row: h column: 8.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 6; Length 547;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                               1299 AATCCAGCCCCACAGCTCCCTGGAGCACTGCTGGAAG 1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   416 AATCCAGCCCCACAGCTCCCTGGAGCACTGCTGGAAG 452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29.3%; Score 390.8; DB 6;
85.6%; Pred. No. 1e-67;
ive 0; Mismatches 72;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rattus norvegicus (Norway rat)
Rattus norvegicus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Contact: Dan Fitzpatrick
Amgen, Inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 (bases 1 to 547)
Amgen EST Program.
Amgen Rat EST Program
Unpublished (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   471; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Rattus.
                                                                                                                                        1059
                                                                                                                                                                                                                                                                                                                                                                    1239
                       61
                                                             666
                                                                                                                                                                                                                                                                                            1179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 6
CB611519
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                           ò
                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BE783826 910 bp mRNA linear EST 20-OCT-2000 601471053F1 NIH_MGC_67 Homo sapiens cDNA clone IMAGE:3874260 5',
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          7
                                                                                                                                                                                                                                                       540
                       360
                                         420
                                                                                                                    TCATACCGGGCCCCAGCAGGGTGACACGCGGCGCGGCAGTGCCGGAAGATGCTGCTGGTGGG 480
                                                                                                                                                                                                                 598
                                                                                                                                                                                                                                                                                            658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       939 CACTGAGAGGCCGCGCCTCAAGAGGGGCTCCAAGCCGTCGGCCGTCCTCGGCCTCGCT 998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.

    (bases 1 to 910)

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /mol_type="mRNA"
/db xref="taxon:9606"
/clone="IMAGE:3874260"
/tissue_Lyppe="retinoblastoma"
/lab host="mINB (phage-resistant)"
/lab host="MIH MGC 6"
/clone lib="NIH MGC 6"
/note="organ: eye; Vector: pCMV-SPORT6; Site 1: Not1;
Site 2: Sal1; Cloned unidirectionally. Primer: Oligo Average insert size 1.75 kb. Library constructed by Technologies."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unpublished (1999)
Contact: Robert Straubberg, Ph.D.
Email: Gapbberr@mail.nih.gov
Tissue Procurement: ATCC
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M. A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:
from through the I.M.A.G.E. Consortium/LLNL at:
High quality sequence stop: 601.
                                                                                                                                                                                                                                                       GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                             GTGCTGGCCTTCCTGCTGTATGGGCCTGCCATCCTGAGTTGGGAGTACCTGTCTGGTGGC
                                                                                                                                                                                                             1 receestececececrecerecerreaceaecrecaecrecececaecrecreaece
                                                                                                TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AIN-WGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 412.6; DB 2; Length 910;
Pred. No. 4.6e-72;
0; Mismatches 9; Indels 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1. .910
/organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BE783826.1 GI:10205024
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Technologies.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     30.9%;
96.9%;
                                                                                                                                                                                                                                                                                                                              AGCTCCATCCCCGA 554
                                                                                                                                                                                                                                                                                                                                                                  AGTICCATCCCCGA 672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 96.9<sup>3</sup>
Matches 443; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                     301
                                                                                                361
                                                                                                                                    479
                                                                                                                                                                        421
                                                                                                                                                                                                               539
                                                                                                                                                                                                                                                                                        599
                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                    629
                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 5
BE783826
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DRIGIN
```

ò 엄 ò ö

셤

Š

ઠે

음

셤 ò 8 ò a ò a

Š

요

ò

ò

```
499 bp mRNA linear EST 12-DEC-2000 UI-R-BOO-agr-c-06-0-UI.rl UI-R-BOO Rattus norvegicus cDNA clone BF567596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Coordinated Laboratory for Computational Genomics
University of Iowa
375 Newton Road, 4156 MEBRF, Iowa City, IA 52242, USA
775 Newton Road, 4156 MEBRF, Iowa City, IA 52242, USA
7761: 319 335 9265
Fax: 319 335 9265
Email: bento-soares@uiowa.edu
CDNA Library Proparation: M.B. Soares Lab Clone distribution:
clones will be available through Research Genetics (www.resgen.com)
This clone is also available through the I.M.A.G.B. Consortium at
Seq primer: M13 Porward.
                                                                                                                                                                                                                                                                                                                ATGAAGATGGTGTCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAGTG 1068
                                                                                                                                                                                                                                                                                                                                                                                                  GCCAAGTCGCTGGCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCCATACACGCTG 1128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTGATGATCATCCGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACC 1188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCCTTCTGGCTCCTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCAC 1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACAGCTTCCGCCGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCC 1308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              73 ATGAAGATGGTGTCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGTG 132
                                                                                                                                                                                                                                                                                                                                                                                                                                         133 GCCAAGTCGCTGGCGTCATCGTGAGCATCTTTGGGCTCTGCTGGCCCCATACACGCTG 192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           72
cloned (EcoRV site is destroyed upon cloning). Average insert size 1.4 kb, insert size range 0.9-4 kb. Library inormalized and enriched for full-length clones and was constructed by C. Gruber (Invitrogen). Research Genetics tracking code 012."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Rodentia, Sciurognathi, Muridae, Murinae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            facilitate gene
                                                                                                                                                                                                                                                                         13 CCGCGCTCACTCAAGAGGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCACTGGAGAAGCGC
                                                                                                                                                                                                                                CCGCGCTCACTCAAGAGGGGCTCCAAGCCGTCGGCGTCCTCGGCTGGAGAAGCGC
                                                                                                                                                                                       Gaps
                                                                                                                                                                                       ö
                                                                                                                                              4; Length 1103;
                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 (bases 1 to 499)
Bonaldo,M.F., Lennon,G. and Soares,M.B.
Normalization and subtraction: two approaches
                                                                                                                                              28.9%; Score 385.4; DB 4
llarity 99.7%; Pred. No. 1.3e-66;
Conservative 0; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CACAGCTCCCTGGAGCACTGCTGGAAG 1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CACAGCTCCCTGGAGCACTGCTGGAAG 399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Genome Rés. 6 (9), 791-806 (1996)
97044477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rattus norvegicus (Norway rat)
Rattus norvegicus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BF567596.1 GI:11677326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Contact: Soares, MB
                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    discovery
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8889548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rattus.
                                                                                                                                                                                       386;
                                                                                                                                                                                                                                                                                                                  1009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               373
                                                                                                                                                                                                                                  949
                                                                                                                                                                                                                                                                                                                                                                                                    1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1309
                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE
PUBMED
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 8
BF567596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
                                                                                                     ORIGIN
                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                         요
                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BM548665
1103 bp mRNA linear EST 20-FEB-2002
AGENCOURT 6573270 NIH_MGC_124 Homo sapiens cDNA clone IMAGE:5732210
5., mRNA Sequence.
BM548665
                                                                                                                                                                                                                                                                         1011
                                                                                                                                                                                                                                                                                                                                                                                                417
                                                                                                                                                                                                                                                                                                                                                                                                                                           AAGTCGCTGGCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCCATACACGCTGCTG 1131
                                                                                                                                                                                                                                                                                                                                                           AAGATGGTGTCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCC 1071
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATGATCATCCGGCCCGCCTGCCATGCCCACGCGTCCCTGACTACTGGTACGAAACCTCC 1191
                                                                                                     891
                                                                                                                                                                                                                                                                                                                  358
                         831
                                                            178
                                                                                                                                              238
                                                                                                                                                                                       951
                                                                                                                                                                                                                                298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Context: Robert Strausberg, Ph.D.

Email: cgapbe-r@mail.nih.gov
Tissue Procurement: Invitrogen
Tissue Procurement: Invitrogen
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LINL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAM12733 row: p column: 03
High quality sequence stop: 654.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
1 (bases 1 to 1103)
NIH-WGC http://mgc.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /tissue_type="hippocampus"
/lab_host="DH10B"
/clone_lib="NIH MGC_124"
/note="Organ: brain; Vector: pCMV-SPORT6; Site_1: EcoRV (destroyed); Site_2: Not1; RNA source male hippocampus, age 27. Library is oligo-dT primed and directionally
                                                            AAGTCGCTGGCCATCATCGTGAGCATCTTTGGGCTCTGCTGGCGCGCCGTACACGCTCCTA
                                                                                                     Gergaegecerceregrereagerreagerresegaegerrecerresegegeregeagregae
                                                                                                                                                                                       GGCTCCGTGGCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCG
                                                                                                                                                                                                                                                                         CGCTCACTCAAGAGGGGCTCCAAGCCGTCGGCGTCCTCGGCCTCGCTGGAGAAGCGCATG
                                                                                                                                                                                                                                                                                                                                                                                                  AAGATGGTGTCCCAGAGCATCACCCAGCGCTTCCGGCTGTCGCGGGACAAG-AAGTGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGCTGGGGCTGCTGGCAGAAGGGGCACGGGGAGGCCATGCCGCTGCACAGGTATGGGGTG

    .1103
    /organism="Homo sapiens"
    /mol_type="mRNA"
    /db_xref="taxon:9606"

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             clone="IMAGE:5732210"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BM548665.1 GI:18783421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TICIGGUICC 1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TICIGGCIIC 547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EST
                                                                                                                                                                                                                                                                                                                                                           1012
                                                                                                                                                                                                                                                                                                                                                                                                                                           1072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    478
                                                            119
                                                                                                     832
                                                                                                                                            179
                                                                                                                                                                                       892
                                                                                                                                                                                                                                239
                                                                                                                                                                                                                                                                         952
                                                                                                                                                                                                                                                                                                                  299
                                                                                                                                                                                                                                                                                                                                                                                                  359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1192
                     772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 7
BM548665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
```

Mon Jun

```
USDA, ARS, US Meat Animal Research Center
PO Box 166, Clay Center, NE 68933-0166, USA
Tel: 402 762 4366
Exa: 402 762 4360
Email: smith@email.marc.usda.gov
Single pass sequencing. Bases called and alt_trimmed with phred
and —minmatch 12 options.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1054
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGGACAGGAAAGTGGCCAAGTCGCTGGCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGG 1114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          704 GGGCTCGAGAGGCAGCCGCGCGCCCCCTCCCGAGGCCCAGCCCTCACCACCCC--- 760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 422 GGGACAAGAAGGTAGCCAAGTCACTGGCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGG 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
Casas, E., Wray, J.E., White, J., Cho, J., Fahrenkrug, S.C.,
Bennett, G.L., Heaton, M.P., Laegreid, W.W., Rohrer, G.A.,
Chitko-McKown, C.G., Pertea, G., Holt, I., Karamycheva, S., Liang, F.,
Quackenbush, J. and Keele, J.W.
Sequence evaluation of four pooled-tissue normalized bovine cDNA
libraries and construction of a gene index for cattle
Genome Res. 11 (4), 626-630 (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note="Vector: pCMV SPORT6; Site 1: Not1; Site 2: Sal1; Library made from pooled tissue From lymph node, ovary, fat, hypothalamus, and pituitary."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGTATGGGGTGG-----GTGAGGCGGCCGTAGGCGCTGAGGCCGGGGAGGCGACCCTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CACCGCCTGGCTGCTGGGGGCTGCTGGCAGAAGGGGCACGGGGGGCGTGCCGCTGCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             302 GGGGCACCGAGAGGCCTCGCTCACTCAAGCGCGGCTCCAAGCCATCGGGGTCCTCAGCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cecresasaasesesarasarasarasistesesasesareacereareserricaserrerere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCTTCTTTAACCTCAGCATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cerretreaacereageareracergaacareeagagegegegegereregegere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGGTGGCGGTGCGTGCCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGGGCACTGAGAGGCCGCGCTCACTCAAGAGGGGCTCCAAGCCGTCGGCGTCCTCGGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCTGGAGAAGCGCATGAAGATGGTGTCCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 519;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                27.7%; Score 369.6; DB 2; Length 84.9%; Pred. No. 1.7e-63; ive 0; Mismatches 69; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1115 CCCCATACACGCTGCTGATGATCATCCGGGCCGCCTGC 1152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Bos taurus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /lab_hogt="DH10B"
/clone_lib="MARC 1BOV"
                                                                                                                                                                                                                                                                                                                                                                                                       BACKWARD: GTTTTCCCAGTCACGACG
Plate: 108 row: H column: 13
Seg primer: ATTTAGGTGACACTATAG.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /mol_type="mRNA"
/db_xref="taxon:9913"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'tissue_type="pooled"
                                                                                                                                                                                                                                                                                                                                                                                         FORWARD: AGGAAACAGCTATGACCAT
                                                                                                                                                                                      Contact: Smith TPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        440; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    . . 519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                      PCR PRimers
                                                                                                                                                 21180013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          761
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     935
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Loca
Matches
                                                                                                                            JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                      COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        쉱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                              /ULCE_INDE_INDEPED FOR (Pharmacia) with a modified hote="Vector: piral") Fite_2: Eco RI; The library polylinker; Site_1: Not I; Site_2: Eco RI; The library (UT-R-B00) is a subtracted library derived from a mixture of the following tissues: thalamus, cerebellum, hypothalamus, medulla, pons, midbrain, cerebral cortex, corpus striatum and hippocampus. For a detailed description of the library from which this clone was derived, please visit our wab site at at steest.eng.uiowa.edu. The subtraction has been previously described in (Bonaldo, Lennon and Soares, Genome Research 6:791-806, 1996)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EST 25-APR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bos taurus (cow)
Bos taurus
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Bukaryota; Metazoa; Chordata; Craniata; Pecora; Bovidae;
Bowinae; Bos.
1 (bases 1 to 519)
Smith,T.P.L., Grosse,W.M., Freking,B.A., Roberts,A.J., Stone,R.T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       419 ACCCTGGAGTTCTTCACGCCCTTCCTCAGCGTTACCTTCTTCAACCTCAGCATCTACCTG 478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGTGCCTTCTGCATCCCATTGTACGTACCTATGTGCTGACCGGCCGTTGGACCTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCATCTACCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCCTCTCTGCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTCATACCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCCAGCAGGGTGACACGCGGCGGGCAGTGCGGAAGATGCTGCTGGTGTGGGTGCTGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGCAGCTCCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          rrccrecrerardescerecearcereagradescarecrerereseagescare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCACGGCTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ccceaececcacrecrarecreaerrerreracaacreeracrirerearcaeceneree
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGGACCTTCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 499;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AW669811 519 bp mRNA linear 113386 MARC 1BOV Bos taurus CDNA 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        44; Indels
                                                                                  /db_xref="taxon:10116"
/clone="UI-R-BO0-agr-c-06-0-UI"
/dev_atage="adult"
/lab_host="DH10B (Life Technologies)"
/clone_lib="UI-R-BO0"
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 371.2; DB 2;
Pred. No. 8.2e-64;
0; Mismatches 44;
                             'organism="Rattus norvegicus"
                                           /mol_type="mRNA"
/strain="Sprague-Dawley"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AACATCCAGAGGGGCACCCGC 499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AACATCCAGAGGCGCACCCGC 690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AW669811.1 GI:7526325
                                                                                                                                                                                                                                                                                                                                                                                                                                                     27.8%;
90.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 90.01
Matches 397; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AW669811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 9
AW669811
                                                                                                                                                                                                                                                                                                                                                                                                             DRIGIN
```

q

ઠે

g ò 염 8 요 ò a ò g ò g ò 셤

ò

```
/clone="Indacannoon" / clone="Indacannoon" / clone="Indacannoon" / clone="Indacannoon" / lab host="Hullo (phage-resistant)" / lab host="Hullo (phage-resistant)" / clone lib="NIH MGC 47" / clone lib="NIH MGC 47" / clone lib="Organ: brain; Vector: porB7; Site_1: Xho1; Site_2: EcoR1; cDNA made by oligo-dT priming. Directionally cloned into EcoR1/Xho1 sites using the following 5' adaptor: GCGACGAG(G). Size-selected >500bp for average insert size 1.8kb. Library constructed by Ling Hong in the laboratory of Gerald M. Rubin (University of California, Berkeley) using ZAP-CDNA synthesis kit (Stratagene) and Superscript II RT (Life Technologies). Note: this is a NIH_MGC Library."
                                                                                                                                                                                                                                                                                                                                                                              966 regegegregecearagegececegecadaceerdaceraraacaceercereseg 1025
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BQ068856 946 bp mRNA linear EST 02-APR-2002
AGENCOURT_6740127 NIH_MGC_47 Homo sapiens cDNA clone IMAGE:5802702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1005 GCGCATGAAGATGGTGTCCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAA 1064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                 772
                                                                                                                                                                                                                                                                                     965
                                                                                                                                                                                                                                                                                                                                    832
                                                                                 789 CACGGGCTCCCACCTCGAGTTCTTCA-ACCCTTCCTCAGCGTTACCTTCTTCAACCTCAG 847
                                                                                                                                                                               848 CATCTAACTGGAAATCCAGAGGGGCACTCCTTCGTTTGATGGGGGCCCAAAAG--G 905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 GCGCATGAAGATGATGTCCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAA 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 946)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CDNA Library Preparation: Rubin Laboratory
CDNA Library Preparation: Rubin Laboratory
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLCM2037 row: i column: 07
High quality sequence stop: 678.
                                                                                                                                CATCTACCTGAACATCCAGAGGCGCAC-CCGCCTCCGGCTGGATGGGGCTCGAGAGGCAG
                                                                                                                                                                                                                                 719 CCGGCCCCGAGCCCCCTCCCGAGGCCCAGCCCTCACCACC-----CCCACCGCCTGGCT
                                                                                                                                                                                                                                                                     906 CIGGCCAATAAACCCCCACTGGAGCGCAAGCCTTGCCACCTCAGGTTCCCCCACATTGGT
                                                                                                                                                                                                                                                                                                                                    773 GCTGGGGCTGCTGGCAGAAGGGGCACGGGGAGGCCATGCCGCTGCACAGGTATGGGGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 946;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24.8%; Score 331; DB 5; I larity 100.0%; Pred. No. 9.1e-56; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1. 946
/organism="Homo sapiens"
/mol type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BQ068856
BQ068856.1 GI:19897902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                331;
                                  600
                                                                                                                                  099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 11
BQ068856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                      셤
                                                                                                                             ò
                                                                                                                                                                    셤
                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                             ద
                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                  1046 bp mRNA linear EST 21-AUG-2002
AGENCOURT 8863943 NIH_MGC_129 Mus musculus CDNA clone IMAGE:6311932
5/, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Mus musculus"
/mol_type="mRNA"
/db_xref="taxon:1090"
/db_xref="taxon:1090"
/clone="IMAGE:1311932"
/lab_host="UMBGE:131932"
/lab_host="NIH MGC_129"
/clone_lib="NIH MGC_129"
/note="Cogan: olfactory epithelium; Vector: pCMV-SPORT6.1;
Site_1: ECGNV; Site_2: NotI; cloned unidirectionally.
Primer: Oligo dT. Average insert size 2.2 kb. Constructed by ResGen, Invitrogen Corp. Note: this is a NIH_MGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTC 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              788
                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
1 (bases 1 to 1046)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTCCTACCGGGCCCAGCAGGGGACACAAAACGGGCTGTTCGGAAGATGGCACTGGTGTG 669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGTGCTGGCCTTCCTGCTGTATGGGCCTGGCATCCTGAGTTGGGAGTACCTGTCCGGTGG 729
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Email: cgapbe-remail.nih.gov
Tissue Procurement: Susan L. Sullivan, PhD.
CDNA Library Preparation: ResGen, Invitrogen Corp
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov k column: 05
High quality sequence stop: 640.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           730 CAACTCCCATCCCGGGGGGCCCACTGCTATGCTGGTTCTTCTAC-ACTGGTACTTTCTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTTCCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cririccianagenecericidearecearierarenarenerarenerarenegenearene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTCATACCGGGCCCAGGGTGACACGCGGGGGGGCAGTGCGGAAGATGCTGCTGGTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGCTCCATCCCCGAGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                             NIH-WGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             25.5%; Score 340.8; DB 5; Length 1046; ilarity 78.7%; Pred. No. 1e-57; Conservative 0; Mismatches 117; Indels 11;
CCCCTACACACTCCTGATGATCATTCGGGCCGCCTGC 519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                          Mus musculus (house mouse)
                                                                                                                                                                                                                                                        BQ950659.1 GI:22366137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1. .1046
                                                                                                                                                                                                                                                                                                                                    Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity
Matches 472; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                        VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                      RESULT 10
BQ950659
                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORIGIN
```

ઠે 쉱 ò g ò g g ò 임 ઠે g

ð

ö

09

300

634

574

514

454

ø

Mon Jun

g ò 원 ò g ò 유 ò g

```
Enkaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mus musculus

Rukaryota; Metazoa; Chordata; Sciurognathi; Muridae; Murinae; Mus.

CE (bazki,Y.; Furuno,M.; Kasukawa,T., Adachi,J.; Bono,H., Kondo,S.;

Nikaido,I.; Osato,N.; Saito,R.; Suzuki,H.; Yamanaka,I.;

Kiyosawa,H.; Yagi,K.; Tomarul,Y.; Hasegawa,Y.; Mogami,A.;

Schonbach,C.; Golobori,T.; Daldarelli,R.; Hill,D. P.; Bult,C.;

Hume,D.A.; Quackenbush,J.; Schriml,L.M.; Kanapin,A.; Matsuda,H.;

Batalov,S.; Beisel,K.W.; Blake,J.A.; Bradch,D.; Brusic,V.;

Chothia,C.; Corbani,L.E.; Cousins,S.; Dalla,E.; Dragani,T.A.;

Fletcher,C.F.; Forrest,A.; Frazer,K.S.; Gaasterland,T.;

Gariboldi,M.; Gissi,C.; Godzik,A.; Gough,J.; Graribold,S.;

Kawaji,H.; Kawasawa,Y.; Kedareski,R.M.; King,B.L.; Konagaya,A.;

Kavaji,H.; Kawasawa,Y.; Kedareski,R.M.; King,B.L.; Konagaya,A.;

Kurochkin,I.V.; Lee,Y.; Lenhard,B.; Lyons,P.A.; Maglott,D.R.;

Numata,K.; Okido,T.; Pavan,W.J.; Pertea,G.; Pesole,G.;

Ravasi,T.; Reed,J.C.; Reed,D.J.; Reid,J.; Ramachandran,S.;

Ravasi,T.; Reed,J.C.; Red,D.J.; Reid,J.; Ring,B.Z.; Ringwald,M.; Sandellin,A.; Schneider,C.; Serou,M.; Shimada,K.;

Sandellin,A.; Schneider,C.; Serou,M.; Shimada,K.;

Verardo,R.; Wagner,L.; Wahlestedt,C.; Wang,Y.; Watanabe,Y.;

Walls,C.; Wallming,L.G.; Wynshaw-Boris,A.; Yanagisawa,M.; Yang,I.;

Yang,L.; Yuan,Z.; Zavolan,M.; Zhu,Y.; Zimmer,A.; Taylor,M.; Sakazume,M.; Sato,K.; Shiraki,T.; Waki,K.; Kawai,J.; Alzawa,K.; Shinagawa,T.; Miyazaki,T.; Waki,K.; Kawai,J.; Alzawa,K.; Shinagawa,T.; Miyazaki,T.; Waki,K.; Sawai,D.; Alzawa,K.; Shinagawa,A.; Yoshino,M.; Waterston,R.; Kandacki,R.; Shinagawa,A.; Yoshino,M.; Waterston,R.; Kandacki,R.; Kand
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BY727560 BYZ7560 EST 17-DEC-2002 BY727560 RIKEN full-length enriched, adult male cortex Mus musculus cDNA clone B530005H20 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                   335 ArdGAGCGCGCCGCCCGACGGCTGATGAACGCGTCGGCCACTCTGGCCGGAGAGGCCG 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCGGCGGCGGCGCGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATGGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCCGACTCGAGCCTCCGCACCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         395 GCGGCTGCAGGCGGGCGCGCGCTTCTCGGCTGCCTGGACCGCTGTCCTGGCTGCTGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGGCGCTGCTCATCGTGGCCACAGTACTGGGCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TICCICGICGCCCCTICICCATCCCACTGIAIGIACCCIACGIGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                            1 ATGGAGCGCGCGCCCCGACGGCCGCTGAACGCTTCGGGGGCGCTGGCGGCCGATGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCGGATTCGAGCCTCCGCACCACACTTCTTCTGCTCAACCTCGACCATCCTCCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
NIH MGC 255) and was constructed by Express Genomics (Frederick, MD). Note: this is a NIH_MGC library"
                                                                                                                                                                                                                                     ö
                                                                                                                                                  Length 842;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301 ACCTTCGGCCGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTAC 345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              32; Indels
                                                                                                                                                          DB 7;
                                                                                                                                                      Score 294.4; DB 7
Pred. No. 1.8e-48;
0; Mismatches 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mus musculus (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BY727560.1 GI:27140687
                                                                                                                                                          22.1%;
90.7%;
                                                                                                                                                          Query Match 22.1
Best Local Similarity 90.7
Matches 313; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BY727560
                                                                                  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LOCUS
                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /tissue_type="Brain - Pooled from several tissues from one or more individuals"
/lab_host="Bull BronA"
/lab_host="
                                                                                                                                                          1184
                                                                                                                                                                                                                                                                                                                1244
                                                                                                                                                                                                                                                                                                                                                                                                                                                              1245 CCACCACAGCTTCCGCCGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCA 1304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EST 01-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241 CCACCACAGCTTCCGCCGGGCCTTCACCAAGCTGTGTGCCCCCCAGAAGCTCAAAATCCA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
                                           61 AGTGGCCAAGTCGCTGGCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACAC
                                                                                                                                                                                             121 GCTGCTGATGATCATCCGGGCCCCTGCCATGCCCACTGCGTCCCTGACTACTGGTACGA
                                                                                                                                                                                                                                                                                                                                                   College of Wisconsin College of Wisconsin Express Genomics College of Wisconsin CDNA Library Preparation: Express Genomics CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: The I.M.A.G.E. Consortium (Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: http://mage.llnl.gov
Plate: LLAM15369 row: b column: 01
High quality sequence stop: 637.
AGTGGCCAAGTCGCTGGCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCCATACAC
                                                                                                                                                                                                                                                                                                            1185 AACCTCCTTCTGGCTCCTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTG
                                                                                                                                                          GCTGCTGATGATCATCCGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Contact: Daniela S. Gerhard, Ph.D.
Office of Cancer Genomics
National Cancer Institute / NIH
Bldg. 31 EmloA07 Bethesda, MD 20892
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Drs. Josef Lazar & Howard Jacob, Medical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGENCOURT 27526928 NIH MGC 254 Rattus norvegicus cDNA clone
IMAGE:7315203 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1305 GCCCCACAGCTCCCTGGAGCACTGCTGGAAG 1335

    .842
/organism="Rattus norvegicus"

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /mol_type="mRNA"
/db_xref="taxon:10116"
/clone="IMAGE:7315203"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         842 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rattus norvegicus (Norway rat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CO403631.1 GI:49585547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             sex="both"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (bases 1 to 842)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rattus norvegicus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CO403631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CO403631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EST
                                                                                                                                                      1125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 12
CO403631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
```

Gaps

. 9

552

MEDLINE PUBMED COMMENT JOURNAL

TITLE

```
AMGNNUC:SRTH1-00002-H10-A RDS RAT (13984) Rattus norvegicus CDNA CB758850
                                                                                            253 ATGGAGCGCGCCCGCCCGACGGCTGATGAACGCGTCGGGCGCTCTGGCCGGAGAGGCG 312
                                                                                                                                         61 GCGGCGGCGGGCGCGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCCTC 120
                                                                                                                                                                 121 ATGGCGCTGCTCATCGTGGCCACGGTGCTGGCAACGCGCTGGTCATGCTCGCCTTCGTG 180
                                                                                                                                                                                                                                                         181 GCCGACTCGAGCCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301 ACCTTCGGCCGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACTCC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 GCGGCGCGCGCGCGCGCGCGCTTCTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTC 120
                                                                                                                                                                                                                                                                                                                                                     241 TICCICGICGCCCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        53 ACCTTTGGCCGGG--CCTCTGCAGCTGTGGCTGTGTAGACTACTACTGTGTGCCCTCTC- 609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /clone="srth1-00002-h10"
/cell type="artificial construct"
/clone lib="RDS RAT (13984)"
/note="artificial construct for rat sequencing requests"
                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 ATGCAGCGCGCCCCCCCCCACGGCCGCTGAACGCTTCGGGGGGCGCTGCCGGCGGCGATGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             One Amgen Center Drive, Thousand Oaks, CA 91320-1799, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 6; Length 434;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20.4%; Score 272.8; DB 6; Length 91.5%; Pred. No. 3.6e-44; ive 0; Mismatches 27; Indels
    57; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361 TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTC 399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  610 --- AGTCTCAACATCGTGCTGATCAGCTATGACCGATCC 645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Rattus norvegicus"
/mol_type="mRNA"
/db_xref="taxon:10116"
       0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          column: 10.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Rattus norvegicus (Norway rat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tel: 805 447-4881
Plate: 00002 row: h column
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Contact: Dan Fitzpatrick
Amgen, Inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CB758850.1 GI:29847241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 (bases 1 to 434)
Amgen EST Program.
Amgen Rat EST Program
Unpublished (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          al Similarity 91.5%;
289; Conservative
    Matches 336; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rattus norvegicus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1. .434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local
Matches 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CB758850
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                            셤
                                                                                                                                       ò
                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                   Op
                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                    ठ
                                                                                                                                                                                                                                   ઠ
                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human Genome Sequences Mann. Genome. 12, 673-677 (2001)

Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genes. Genome Res. 10 (10), 1617-1630 (2000)

RIKEN integrated sequence analysis (RISA) system--384-format sequencing pipeline with 384 multicapillary sequencer. Genome Res. 10 (11), 1757-1771 (2000)

Compute--based methods for the mouse full-length cDNA encyclopedia: real-lime sequence clustering for construction of a nonredundant cDNA library. Genome Res. 11 (2), 281-289 (2001)

CDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Genome Genomic Sciences Center and Genome Science Laboratory in Riken Genomic Sciences Center and Genome Science Laboratory in Riken Division of Experimental Animal Research in Riken contributed to
                                                                                                                                Laboratory for Genome Exploration Research Group, RIKEN Genomic Sciences Center(GSC), Yokohama Institute
The Institute of Physical and Chemical Research (RIKEN)
1-7-22 Suchiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan Tel: 81-45-503-9222
Fax: 81-45-503-9216
Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs Nature 420, 563-573 (2002)
                                                                                                                                                                                                                                                                       Email: genome_ree@gsc.riken.jp, URL:http://genome.gsc.riken.jp/
Adachi,J., Aizawa,K., Akimura,T., Arakawa,T., Carninci,P.,
Pukuda,S., Hashizume,W., Hayashida,K., Hirozane,T., Hori,F.,
Imotani,K., Ishii,Y., Itoh,M., Kagawa,I., Kawi,J., Kojima,Y.,
Kondo,S., Konno,H., Koya,S., Miyazaki,A., Murata,M., Nakamura,M.,
Nomura,K., Numazaki,R., Ohno,M., Ohsato,N., Saito,R., Sakazume,N.,
Sano,H., Sagaki,D., Sato,K., Shibata,K., Shiraki,T., Tagami,M.,
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Computational Analysis of Full-Length Mouse cDNAs Compared with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    prepare mouse tissues.
Please visit our web site (http://genome.gsc.riken.go.jp) for
further details.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 277; DB 6; Length 653;
Pred. No. 5.4e-45;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /db_xref="taxon:10090"
/clone="B530005H20"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tissue_type="cortex"
                                                                                                               Contact: Yoshihide Hayashizaki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /mol_type="mRNA"
/strain="C57BL/6J"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              dev stage="adult"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20.7%;
84.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sex="male"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                       22354683
```

source

FEATURES

ö

9

ORIGIN

```
374 CCTGGACGGTCTTCCTGGCTGTCCTGATGGGGGTCCTCATAGTTAGCACCGTGCTGGGGA 433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2, 2005, 14:34:41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Search completed: June Job time: 4404.8 secs
                                                                                                                                                                                                                                                                                                                          395 (
                                                                                                                                                                                                                                                                                                                                                                                             455 (
                                                                                                                                                                                                                                                    335
                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                  셤
                                                                                                        ò
                                                                                                                                      엄
                                                                                                                                                                     ठे
                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                    8
                                                                                                                                                                                                                                                                                                                                                                853 bp mRNA linear EST 28-MAY-2003
IMAGE:6949081 5', mRNA sequence.
                      238
                                                       180
                                                                                           298
                                                                                                                           GCCGACTCGAGCCTCCGCACCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC 240
                                                                                                                                                             358
                                                                                                                                                                                                TTCCTCGTCGGCCCCTTCTGCATCCCACTGTATGTACCTACGTGCTGACAGGCCGCTGG 300
                                                                                                                                                                                                                                   418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae; Xenopodinae; Xenopus; Xenopos.

1 (bases 1 to 853)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /dev_stage="adult"
/lab_host="DH10B (phage-resistant)"
/clone_lib="NICHD_XGC_EPTO: pCWV-SPORT6; Site_1: Not1;
/note="Organ: eye; Vector: pCWV-SPORT6; Site_1: Not1;
Site_2: Sal1; Cloned unidirectionally. Primer: Oligo dT.
Average insert size 2.3 kb. Constructed by Life
Technologies. Note: This is a Xenopus Gene Collection
(XGC) library."
GCGGCTGCAGGCGGGGGGCGCGCGCTTCTCGGCTGCCTGGACCGCTGTCCTGGCTGCCTC
                                                                             ATGGCGCTGCTCATCGTGGCCACACTACTGGGCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                    GCGGATTCGAGCCTCCGCACCCCAGAACAACTTCTTTCTGCTCAACCTCGCCATCTCCGAC
                                                                                                                                                                                                                   TTCCTCGTGGGTGCCTTCTGCATCCCATTGTACGTACCTATGTGCTGACCGGCCGTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAM14564 row: f column: 24
High quality sequence stop: 707.
                                                       ATGCCGCTGCTCGTGCCCACGCTGCTGGCCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                I (Dases 1 to 052),
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
Conteat: Daniela S. Gerhard, Ph.D.
Office of Cancer Genomics
National Cancer Institute / NIH
Bldg. 31 Rm10A07 Bethesda, MD 20892
Email: cgapbe r@mail.nih.gov
Tissue Procurement:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               19.8%; Score 264.2; DB 6; Length 853; Similarity 76.0%; Pred. No. 2e-42; 26; Conservative 0; Mismatches 103; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Xenopus laevis (African clawed frog)
Xenopus laevis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Xenopus laevis"
/mol_type="mRNA"
/db_xref="taxon:8155"
/clone="IMAGE:6949081"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                CD326085.1 GI:31090416
                                                                                                                                                                                                                                                                                       ACCTTCGGCCGGGGCC 434
                                                                                                                                                                                                                                                                    Acctrceecceeecc 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1. .853
                                                                                        239
                                                                                                                                                                                                                                                                  301
                                                       121
                                                                                                                            181
                                                                                                                                                             299
                                                                                                                                                                                                241
                                                                                                                                                                                                                                 359
                                                                                                                                                                                                                                                                                                     419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local
                                                                                                                                                                                                                                                                                                                                                         RESULT 15
CD326085
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORIGIN
                                                     ð
                                                                                      g
                                                                                                                           ò
                                                                                                                                                      g
                                                                                                                                                                                           ò
                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                  В
```

ö

°,

154

CCTGGACCGCGGTGCTGGCCGCGCTCATGGCGCTCATCGTGGCCCACGGTGCTGGGCCAA

326;

```
214
                                                  493
                                                                                                                                                    553
                                                                                                                                                                                                       334
                                                                                                                                                                                                                                                      613
                                                                                                                                                                                                                                                                                                                                   454
                                                                                                                                                                                                                                                                                                                                                                                                                                                              733
                                                                                                                                                                                                                                                                                                         TAGTGGACTACCTGCTGTGCACCTCCTCTGCCTTCAACATCGTGCTCATCAGCTACGACC 394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        215 TCCTGCTCAACCTCGCCATCTCCGACTTCCTCGCGGCGCCTTCTGCATCCCACTGTATG
                                                                                                                                  494 TCCTTCTCAACCTGGCTATCTCAAATTTCTTTGTAGGTGCCCTGTGCATCCCTCTGTATG
                                                                                                                                                                                                       275 TACCCTACGTGCTGACAGGCCGCTGGACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                              674 GGTTCATCTCTGTGACCCGGCTGTCAGTTACCGAGCTCAGCAGAGTAACAGCCGGCATG
  155 ACGCGCTGGTCATGCTCGCCTTCGTGGCCGACTCGAGCCTCCGCACCCCAGAACAACTTCT
                                                                                                                                                                                                                                                      554 TGCCATACGTACTGACTGGCAGATGGAGCTTTGGCAGGAGCGTTTGCAAACTGTGGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                              GCTTCCTGTCGGTCACCCGAGCGGTCTCATACCGGGCCCAGCAGGGTGACACGCGGGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGTGCGGAAGATGCTGCTGGTGTGGGTGCTGGCCTTCCTGCTGTACGGACCAGCCATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                515 TGAGCTGGG 523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     794 TTATATGGG 802
```

Н

```
(without alignments)
2124.795 Million cell updates/sec
                                                                                                                                                                                 US-10-727-021-7
2361
1 MERAPPDGPLNASGALAGDA......LLCPQKLKIQPHSSLEHCWK 445
                                                                                                           2, 2005, 14:34:44 ; Search time 81 Seconds
                                                                                                                                                                                                                                                                                                                                                         2105692
version 5.1.6
- 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                 Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                    2105692 seqs, 386760381 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                      OM protein - protein search, using sw model
                                                                                                                                                                                                                                                           BLOSUM62
Gapop 10.0 , Gapext 0.5
GenCore
Copyright (c) 1993
                                                                                                                                                                                                                                                                                                                                                                                          seq length: 0
seq length: 200000000
                                                                                                           June
                                                                                                                                                                                                                                                           Scoring table:
                                                                                                                                                                                   Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                            Minimum DB
Maximum DB
                                                                                                                                                                                                                          Sequence:
                                                                                                                                                                                                                                                                                                                  Searched:
```

Run on:

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution. geneseqp2002s:* geneseqp2003as:* geneseqp2003bs:* geneseqp2004s:*

A_Geneseq_16Dec04:* 1: qenesem:001

Database

geneseqp1980s:* geneseqp1990s:* geneseqp2000s:* geneseqp2001s:*

,	Description	Aay92218 Human his	Aab30627 A human h	Abb79792 Human his	Aao19746 Human his	Abp81687 Human his	Abg74567 Human his	Abp59931 Human his	7 Human	Add22854 Human his	Adq89180 Human uro	Adr31458 Human his	Aaw92975 Human mAC	Aay06322 Human G p	Aag67830 Human mus	7 Human	Ŋ	Human	Adf66835 Human his	Ado29494 Human GPC	Adp76110 Human H3	Aay22208 Human G-p	Human	Abg12680 Novel hum	Abr43668 Monkey hi	Abp57426 Monkey hi
SUMMARIES	ΠD	AAY92218	AAB30627	ABB79792	AA019746	ABP81687	ABG74567	ABP59931	AA029527	ADD22854	ADQ89180	ADR31458	AAW92975	AAY06322	AAG67830	ABR43667	ABP57425	ABG76405	ADF66835	AD029494	ADP76110	AAY22208	AAB15381	ABG12680	ABR43668	ABP57426
	图	ო	4	'n	9	9	9	9	7	7	æ	80	7	~	7	9	9	ø	æ	80	80	7	ო	4	9	9
	Length	445	445	445	445	445	445	445	445	445	445	445	445	445	445	445	445	445	445	445	445	453	453	449	445	445
	Match	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	8.66	99.8	8.66	99.8	99.8	8.66	99.8	8.66	99.8	8.66	8.66	9.66	98.4	98.4
4	Score	2361	2361	2361	2361	2361	2361	2361	2361	2361	2361	3	3	3	2357	3	m	m	2357	m	2357	2357	3	2352	2323	2323
Result	No.	1	8	m	4	S	9	7	œ	σ	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

Adp76111 Monkey H3 Abg12681 Novel hum Aao29559 Human H3		Aab15382 Rat G-pro Abr43669 Rat hista Abp57427 Rat hista Abq76406 Rat musca		Aay22207 G-protein Aab15383 Rat G-pro Aao29536 Human H3 Aao29528 Human H3 Aag65580 Human his
ADP76111 ABG12681 AAO29529	ADF66833 ADO29495 AAY06323 AAG67831	AAB15382 ABR43669 ABP57427 ABG76406	ADP76112 AAO29533 AAO29530 AAO29534	AAY22207 AAB15383 AAO29536 AAO29528 AAG65580
00 4 7 0	0 00 00 00	~ v v v	8	26774
445 714 431	4 4 4 4 4 4 4 4 4 4 5 5 0	4 4 4 4 4 4 4 4 ሺ ሺ ሺ ሺ	445 409 415 395	413 413 379 365
988.5 4.0.5 4.0.0	94.0 93.7 7.0	93.7 93.7 7.89	93.7 91.3 90.9 87.3	87.1 87.1 82.2 81.3 81.1
2323 2318.5 2266	2220 2213 2213	2213 2213 2213 2213	2213 2213 2156 2146 2061	2057 2057 1941 1919 1915
2222	33333		8 8 8 4 0 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4 4 4 4 4 11 52 54 4 12

ALIGNMENTS

The human histamine H3 receptor contains the seven conserved hydrophobic domains and specific residues conserved in biogenic amine receptors. The human histamine H3 receptor polynucleotides and polypeptides are used in methods to screen for modulators of receptor activity (claimed). Such agonists and antagonists may prove useful as research tools or may be used as therapeutics to treat disorders directly or indirectly involving histamine receptors (claimed). The characterization of the polynucleotide is useful for forensic analysis, diagnostic applications, and Novel human histamine H3 receptor polynucleotides and polypeptides used in methods to identify modulators of receptor activity. histamine H3 receptor; biogenic amine receptor homologue. Pyati J; Lovenberg TW, Erlander M, Huvar A, AAY92218 standard; protein; 445 AA. (ORTH) ORTHO-MCNEIL PHARM INC. Claim 11; Fig 3; 54pp; English. 98WO-US021090. 98WO-US021090. Human histamine H3 receptor. WPI; 2000-303632/26. N-PSDB; AAA09061, AAA09062. (first entry) Sequence 445 AA; WO200020011-A1. Homo sapiens. 07-OCT-1998; 07-OCT-1998; 10-AUG-2000 13-APR-2000. AAY92218; RESULT 1 AAY92218

100.0%; Score 2361; DB 3; Length 445; 100.0%; Pred. No. 3.1e-181; Query Match Best Local Similarity

ö

180

180

120

9 9

240

```
Histamine; receptor; G-protein coupled receptor; human. neuroprotective; cardiant; antidepressant; tranquillizer; antiparkinosinian; anorectic; hypotensive; analgesic; antidiabetic; laxative; antiarrythmic; antiulcer; antiallergic; antiinflammatory.
of receptor, identifying and isolating genomic equivalents of receptor and identifying, detecting or isolating mutant forms of the receptor. DNA molecules are also useful in gene therapy for the treatment of inflammation or allergies. The human histamine H3 receptor protein is useful in identifying modulators of the human histamine H3 receptor, which in turn are useful as therapeutic and diagnostic agents
                                                                                                                                                                                                                                           ADSSLRIQNNFFLINLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ASPISSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKOVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                   SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                  SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                  SSIPEGHCYAEFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                   ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                                        1 MERAPPOGPLINASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                        MERAPPDGPLINASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                              SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                       GPEPPPEAQPSPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                 Gaps
                                                                                                                                               ;
0
                                                                                                                     100.0%; Score 2361; DB 4; Length 445; 100.0%; Pred. No. 3.1e-181;
                                                                                                                                              Indels
                                                                                                                                                 ;
                                                                                                                                               0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RAFTKLLCPOKLKIOPHSSLEHCWK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     98US-00167354.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABB79792 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human histamine H3 receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             entry)
                                                                                                                                               445; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PHARM CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first
                                                                                                                                   Similarity
                                                                                              Ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (ORTH ) ORTHO
                                                                                              Sequence 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     07-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15-NOV-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    02-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                      19
                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABB79792;
                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                       Query Match
                                                                                                                                    Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ношо
                                                                                                                                    Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 3
ABB79792
    8888888888
                                                                                                                                                                                                a
                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
    ö
                                                                                                                                   180
                                                                                                                                                                                                                                          300
                                                                               120
                                                                                                         120
                                                                                                                                                             180
                                                                                                                                                                                       240
                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                                                                                420
                            9
                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present sequence represents human histamine H3 receptor. The histamine H3 receptor DNA molecules are useful for isolating homologues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Novel DNA molecules useful in gene therapy for the treatment of inflammation or allergy, or for encoding a human histamine H3 receptor and identifying histamine receptor modulators that are useful as therapeutic and diagnostic agents.
                                                                                                                                                  SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                         SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                             ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRWKMVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                                                                                                                                                                              361 AVIVSIPGLCWAPYTLLMIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                           ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                              ADSSLRTQNNFFILINLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLMLVVDYLLCTS
                                                                                                                                   SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRXMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                      SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                          GPEPPEAQPSPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                      GPEPPPEAQPSPPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                                                            ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL
                           MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                  AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
    Gaps
    ;
  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; histamine H3 receptor; inflammation; allergy
    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Huvar
  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       human histamine H3 receptor polypeptide.
                                                                                                                                                                                                                                                                                                                                                                                                    445
                                                                                                                                                                                                                                                                                                                                                                                                                     RAFTKLLCPQKLKIQPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Σ
                                                                                                                                                                                                                                                                                                                                                                                                   RAFTKLLCPOKLKIOPHSSLEHCWK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Erlander
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAB30627 standard; protein; 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Example 3; Fig 3; 25pp; English
    .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         98US-00167354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   98US-00167354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (ORTH ) ORTHO PHARM CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Lovenberg TW, Pyati J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2001-023168/03.
N-PSDB; AAC62366.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         07-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   07-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US6136559-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24-OCT-2000
  445;
                                                                                                        61
                                                                               61
                                                                                                                                                            121
                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                  121
                                                                                                                                                                                      181
                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAB30627
  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 2
                           ò
                                                 ద
                                                                            ò
                                                                                                 엄
                                                                                                                         ò
                                                                                                                                                      පු
                                                                                                                                                                                    ò
                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                 엄
                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                      셤
```

m

```
ö
                                                                                                                                                                                                   The present sequence is the protein sequence of the human histamine H3 receptor, a novel G-protein coupled receptor. The sequence is predicted from a cDNA clone isolated from a human thalamus cDNA library. It shows at least 254 amino acid identity with the human histamine H2 receptor, 284 with the human histamine H2 receptor, and approximately 254 with the family of biogenic amine H1 receptor, and approximately 254 with the family of biogenic amine H3 receptor cDNA has been expressed in recombinant host cells, which produced active recombinant protein. H3 receptor nucleic acids and proteins can be used to identify modulators of H3 receptor activity or expression useful as therapeutic or lagnostic agents for central nervous system disorders, such as depression, anxiety, psychoses (e.g. hypertension, Tourette's syndrome, sexual dysfunction, drug addiction, drug abuse, cognitive disorders, Alzheimer's disease, senile dementia,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                          olated and purified DNA molecule encoding human histamine H3 protein, useful for identifying modulators of human histamine H3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 obsessive-compulsive behaviour, panic attacks, pain, social phobias, eating disorders and anorexia, cardiovascular and cerebrovascular disorders, non-insulin dependent diabetes mellitus, hyperglycaemia, constipation, arrhythmia, disorders of the neuroendocrine system, stress and spasticity, as well as acid secretion, ulcers, airway constriction, asthma, allergy, inflammation and prostate dysfunction
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADSSLRIQNNFFLLINIAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLJVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GPEPPFEAQPSPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKNVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AVIVSIPGLCWAPYTLLMITRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GPEPPPEAQPSPPPPGCWGCWQKGHGBAMPLHRYGVGBAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MERAPPDGPLINASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 2361; DB 5; Length 445; 100.0%; Pred. No. 3.1e-181; ive 0; Mismatches 0; Indels 0
 Pyati J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Huvar A,
                                                                                          Novel isolated and purified DNA
                                                                                                                                                                    Claim 1; Fig 3; 25pp; English.
 Σ
                                                                                                                               receptor protein activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity 100. Matches 445; Conservative
 Erlander
                                    2002-641560/69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
                                                      N-PSDB; ABN84882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 445 AA;
 Lovenberg TW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
```

RESULT 4

```
The present invention relates to antibodies specific for human histamine receptor protein subclasses H1, H2 and H3. These antibodies prevent histamine binding to the receptors and can be used to prevent allergic reactions and inflammatory diseases. The present sequence is the human H3 receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                               Human, histamine receptor, H1; H2; H3; antigen, antibody, antiallergic,
antiinflammatory, immunosuppressive, allergy, inflammatory disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 ADSSÍRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SSIPECHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SSIPEGHCYAEFFYNMYFLITASTLEFFTPFLSVTFFNLSIYLNIORRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GPEPPPBAQPSPPPPPGCWGCWQKGHGEAMPLHRYGYGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GPEPPPEAQPSPPPPPGCWGCWGCWGKGBEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MERAPPOGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AVIVSIFGLCWAPYTLLMI IRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                                                                                                                                                                                                                                                                            New antibodies specific for histamine receptor proteins, useful for treating e.g. allergic reactions, which are agonistic and inhibit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Score 2361; DB 6; Length 445; 100.0%; Pred. No. 3.1e-181; ive 0; Mismatches 0; Indels 0
                                                                                    Human histamine receptor subclass H3 protein.
AA019746 standard; protein; 445
                                                                                                                                                                                                                                                                             2001DE-01020816.
2002DE-01013916.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 2; Fig 2; 39pp; German.
                                                                                                                                                                                                                                                 27-APR-2002; 2002WO-EP004678,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity 100.
Matches 445, Conservative
                                                                                                                                                                                                                                                                                                                                                                                WPI; 2003-140269/13
                                                                                                                                                                                                                                                                                                                        (SCHA/) SCHAEFER U.
                                                                                                                                                                                                                                                                                                                                                                                                                            treating e.g. alle
histamine binding.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 445 AA;
                                                                                                                                                                                         WO200292634-A2
                                                                                                                                                                                                                                                                             27-APR-2001;
28-MAR-2002;
                                                                                                                                                             Homo sapiens
                                                         11-AUG-2003
                                                                                                                                                                                                                                                                                                                                                    Schaefer U,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
```

ö

```
The present invention describes antigenic peptides (I) comprising: (a) any one of 1601 sequences (see ABP82019 to ABP83619) of 12-24 amino caide. Also described: (1) an assay for the detection of a particular G caide. Also described: (1) an assay for the detection of a particular G condition of a particular G condition of a cample; and (2) an isolated antibody having high specificity and high affinity or a vidity for a particular GPCR. (I) can be used as GPCR modulators and in antibody against a particular GPCR, and in the production of specific antibodies. The peptides and antibodies are also useful for detecting an antibodies. The specific antibodies are useful for disposing of presence or absence of corresponding GPCRs. The antigonic peptides for GPCRs and antibodies are useful for disposing and designing drugs for treating immune-related diseases, growth-related diseases, cell creating immune-related diseases, immunological-related cell profilerative diseases, or autoimmune diseases, e.g. AIDS. Alzheimer's disease, catherosclerosis, bacterial, fungal, protozoan or viral infections, catherography chronic and acute catherosclerosis, cancer, cardiomypathy, chronic and acute catherosclerosis, catheroperosis, cardiomypathy, chronic and acute catherosclerosis, catheroperosis, cardiomypathy, chronic and acute catherosclerosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            G protein-coupled receptor; GPCR; antigenic peptide; gene therapy; G protein-coupled receptor modulator; antibody; immune-related disease; growth-related disease; call regeneration-related disease; AIDS; cancer; immunological-related cell proliferative disease; autoimmune disease; Alzheimer's disease; atheroselerosis; infection; osteoarthritis; allergy; osteoporosis; cardiomyopathy; inflammation; Crohn's disease; diabetes; graft versus host disease; Parkinson's disease; multiple sclerosis; pain; psoriasis, anxiety; depression; schizophrenia; dementia; memory loss; mental retardation; epilepsy; asthma; tuberculosis; obesity; nausea; hypertension; hypotension; renal disorder; rheumatoid arthritis; traumä;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New isolated antigenic peptides e.g., for G protein-coupled receptors (GPCR), useful for diagnosing and designing drugs for treating conditions in which GPCRs are involved, e.g. AIDS, Alzheimer's disease, cancer or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               inflammation, allergies, Crohn's disease, diabetes, graft versus hest disease, Parkinson's disease, multiple sclerosis, pain, psoriasis, anxiety, depression, schizophrenia, dementia, mental retardation, memory loss, epilepsy, asthma, tuberculosis, obesity, nauses, hypetension, hypotension, renal disorders, rheumatoid arthritis, trauma, ulcers, or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human histamine H3 receptor protein SEQ ID NO:549,
    445
                                         421 RAFTKLLCPOKLKIQPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                       Ź
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Disclosure, Fig 1; 523pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (LIFE-) LIFESPAN BIOSCIENCES INC
                                                                                                                                                                                                                                                                       ABP81687 standard; protein; 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           19-DEC-2001; 2001WO-US050107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19-DEC-2000; 2000US-0257144P
                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Roush CL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2003-046718/04.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          autoimmune diseases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB; ABZ42533.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO200261087-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                          04-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           08-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Burmer GC,
                                                                                                                                                                                                                                                                                                                                                               ABP81687;
421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ulcer.
                                                                                                                                                                                                                                 ABP81687
XX XX XX ABP8
XX AAC ABP8
XX XX ABP8
XX XX ABP8
XX XX XX ABP8
XX XX XX XX ABP8
XX XX XX XX XX ABP8
XX XX XX
                                                                                                                                                                                                RESULT
    ò
                                                                  g
```

```
ö
                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                              120
                                                                                                                                                                                                     120
                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                      9
                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human; histamine receptor; H3; antibody; histamine receptor protein; histamine; extracellular domain; extracellular loop; immunosuppressive; transmembrane domain; antiallergic; antiinflammatory; allergic reaction;
                                                                                                                                                                                         61 ADSSERTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                         any other disorder in which GPCRs are involved. The antibodies may be used in immunoassays and immunodiagnosis. ABZ42523 to ABZ42869 encode GPCR proteins given in ABS81675 to ABP82018, which are used in the exemplification of the present invention
                                                                                                                                                                                                                                                                                                                         GPEPPPEAQPSPPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                       ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL
                                                                                                                               1 MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                       1 MERAPPOGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                            ADSSLRTQNNFFILINLAISDFLYGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                             SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                          SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLBDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                    AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                         Gaps
                                                                                                        ö
                                                                                   Length 445;
                                                                                                        Indels
                                                                                 ; Score 2361; DB 6;
; Pred. No. 3.1e-181;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human histamine receptor H3 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RAFTKLLCPQKLKIQPHSSLEHCWK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RAFTKLLCPQKLKIQPHSSLEHCWK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABG74567 standard; protein; 445 AA
                                                                                  100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 anaphylactic shock; detection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            27-APR-2001; 2001DE-01020816.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    27-APR-2001; 2001DE-01020816.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                        445; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (SCHA/) SCHAEFER U.
                                                                                             Similarity
                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DE10120816-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                08-MAY-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     07-NOV-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Schaefer U;
                                                                                  Query Match
Best Local S:
Matches 445
                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABG74567;
                                                                                                                                                                               61
                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT
  8888888
                                                                                                                                 ð
                                                                                                                                                       셤
                                                                                                                                                                              à
                                                                                                                                                                                                   g
                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                          à
```

Human histamine H3 receptor.

WPI; 2003-168704/17.

```
This invention describes a novel antibody that is specific for a histamine receptor protein (HRP), especially human, and is able to histamine receptor protein (HRP), especially human, and is able to inhibit binding of histamine to HRP. The antibody is produced by immunisation with an antigenic polypeptide that comprises (i) an extracellular domain (ECD) having a sequence from the first extracellular loop (ECL) of HRP and optionally a transmembrane domain (TMD) having a sequence from the N-terminus of the third transmembrane region (TMR) of HRP, (ii) ECD having a sequence from the second ECL and optionally a TMD having a sequence from the second ECL and optionally a TMD having a sequence from the second ECL and optionally a TMD having a sequence from the second ECL and optionally a TMD having a sequence from the second ECL and optionally a TMD having a sequence from the second ECL and optionally a TMD having a sequence from the second ECL and optionally a TMD having a sequence from the second ECL and optionally a TMD having a sequence from the second ECL and optionally a TMD having a sequence from the second ECL and optionally a TMD having a sequence from the second ECL and optionally a TMD having a sequence from the second ECL and optionally a TMD having a sequence from the second ECL and optionally a TMD having a sequence from the second ECL and optionally a TMD having a sequence from the second ECL and optionally a TMD having a sequence from the second ECL and optionally a TMD having a sequence from the second ECL and optionally a TMD having a sequence from the second ECL and optionally a TMD having a ECD having a sequence from the second ECL and optionally a TMD having a ECD having a SEC and the second ECL and optionally a TMD having a ECD having a SEC and the second ECL and optionally a TMD having a ECD having a SEC and the second ECL and optionally a TMD having a SEC and the second ECL and optionally a TMD having a SEC and the second ECL and optionally a TMD having a SEC and the second ECL and optional sec
                                                                            New antibody specific for histamine receptor protein, useful for treating or preventing e.g. allergy or inflammation, also antigens for its
                                                                                                                                                                                                                                                                             Claim 2; Fig 2C; 14pp; German.
                                                                                                                                                                                           preparation.
```

Sequence 445 AA;

```
120
                                                                                                                                               120
                                                                                                                                                                              180
                                                                                                                                                                                                          180
                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                          9
                                                                                      9
                                                                                                                                     61 ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                         GPEPPPEAQPSPPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                      AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                           1 MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                   ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                             SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                         121 SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                      SSIPEGHCYARFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                           ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                                                                                                                                                                                                         ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL
                                                          1 MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                  GPEPPPEAQPSPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                      AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                              Gaps
                             ò
100.0%; Score 2361; DB 6; Length 445; 100.0%; Pred. No. 3.1e-181;
                             0; Indels
                             0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RAFTKLLCPQKLKIQPHSSLEHCWK 445
               Best Local Siminary
Matches 445; Conservative
                                                                                                                   61
                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                              121
                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                            g
                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                        요
                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                 g
                                                                                                                  ò
                                                                                                                                                                             ò
                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
```

```
The present invention relates to a method of identifying compounds that are agonists of recombinant human histamine H3 receptor protein activity, comprising a compound suspected of being an antagonist of human histamine H3 receptor protein activity with recombinant human histamine H3 receptor protein activity with recombinant human histamine H3 receptor protein. The methods and compositions of the present invention are useful for diagnosing and treating human histamine H3 receptor-related disorders, such as central and peripheral nervous system disorders (depression, anxiety, psychoses, parkinson's disease, Alzheimer's disease, dementia and tardive dyskinesia), asthma, allergy, diabetes mellitus, inflammation, immune, cardiovascular (hypertension, and arrhythmia) and gastrointestinal disorders. The present sequence is the human histamine H3 receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121 SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 ADSSLRIQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ASPISSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Identifying agonists of recombinant human histamine H3 receptor protein activity, useful for diagnosing and treating H3 receptor-related disorders, such as nervous system disorders, asthma, allergy, hypertension and diabetes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MERAPPOGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GPEPPPEAQPSPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MERAPPDGPLNASGALAGDAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                    Human; histamine H3 receptor; receptor modulator; agonist; nootropic;
neuroprotective; erebroprotective; cardiant; antiasthmatic;
immunomodulator; gastrointestinal; antiallergic; antidiabetic;
antiinflammatory; hypotensive; antiarrhythmic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 445;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Score 2361; DB 6;
100.0%; Pred. No. 3.1e-181;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Example 1; Fig 3; 55pp; English.
                                                                                                                                                                                                                                                                                                                                (ORTH ) ORTHO-MCNEIL PHARM INC.
                                                                                                                                                                                                                                                                                          15-NOV-2001; 2001WO-US045313.
                                                                                                                                                                                                                                                    15-NOV-2001; 2001WO-US045313.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 100.
Best Local Similarity 100.
Matches 445; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2003-457595/43.
                                                                                                                                                                                                                                                                                                                                                                                                                                 N-PSDB; ACC59395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 445 AA;
                                                                                                                                                                       WO2003044059-A1.
                                                                                                                                     Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                         Lovenberg T;
                                                                                                                                                                                                           30-MAY-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
```

ö

9 9 120

300 300

ABP59931 standard; protein; 445

28-AUG-2003 (first entry)

ABP59931;

ABPS 9931
ID ABPS
XX
AC ABPS
XX
AC ABPS
XX
XX

240 240

ဖ

```
420
                                                     w polynucleotide encoding a human H3 histamine receptor polypeptide,
eful for diagnosing or treating disorders associated with or modulated
H3 histamine receptor, e.g. depression, anxiety, obesity, hypertension
ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The invention relates to splice variants of human H3 histamine receptor polypeptide and their corresponding polynucleotide sequences. The invention is useful in diagnosing or treating diseases or disorders associated with or modulated by the H3 histamine receptor, such as central nervous system disorders (e.g. depression, anxiety, psychoses, Parkinson's disease or Alzheimer's disease), obssity, hypertension, Tourette's syndrome, sexual dysfunction, gastrointestinal disorders (e.g. constipation), drug addiction, cardiovascular or cerebrovascular disorders (e.g. arrhythmia), diabetes, stress, ulcers, asthma, allergy, The polypeptide is useful for identifying agonists, antagonists or inverse agonists of histamine action at the H3 receptor. The present sequence is human wild-type H3 receptor protein
                                                                                                                                                                                                                                                                                                                                                           Human; H3 histamine receptor; central nervous system; depression; ulcer; Tourette's syndrome; sexual dysfunction; drug addiction; cardiovascular; anxiety; Parkinson's disease; Alsener's disease; obesity; arrhythmia; constibation; gastrointestinal disorder; inflammation; cerebrovascular; diabetes; hypertension; stress; allergy; prostate dysfunction; asthma;
                                AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                                                                                                                                                                                            Human wild-type H3 receptor (H3a) protein.
                                                                                                  RAFTKLLCPQKLKIQPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Example; Page 50-51; 92pp; English.
                                                                                                                                                                                                                        AAO29527 standard; protein; 445 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         04-NOV-2002; 2002WO-US035375.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13-NOV-2001; 2001US-0333094P
                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Yates SL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (MERI ) MERCK & CO INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    therapy; receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2003-441792/41.
N-PSDB; AAL59976.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Seguence 445 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO2003042359-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gallagher M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens.
                                                                                                                                                                                                                                                                                            27-AUG-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 diabetes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     22-MAY-2003
                                                                                                                                                                                                                                                          AA029527;
                                361
                                                                  361
                                                                                                    421
                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                    gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New
                                                                                                                                                                                      RESULT 8
                                                                                                                                  엄
                                                                                                                                                                                                                          g
                                                                                                ò
                              ò
```

```
300
                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; Histamine H3 receptor; GPCR; G protein-coupled receptor; receptor; immunogen; depession; anxiety; schlazophrenia; parkinson; disease; obesity; hypertension; Tourette's syndrome; sexual dysfunction; drug addiction; drug abuse; cognitive disorder; Alzheimer's disease; drug addiction; drug abuse; panic atteact; panic, eating disorder; anorexia; cardiovascular disorder; cerebrovascular disorder; cerebrovascular disorder; constipation; arrhythmia; ulcer; asthma; allergy; inflammation;
                                                                                                                           180
                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                   420
               9
ADSSLRIÇUNFFELINIAISDFLYGARCIPLYVPYYLIGRWIFGRGLCKLWLVVDYLLCTS
                                                                                                                241 GPEPPPEAQPSPPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGGSV
                                                                                                                                                                                                                                                                                  ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                                                                                                                                        AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                                                                                                                                                                                                      New antibody against human histamine H3 receptor, preferably with receptor antagonist activity, useful for diagnostic purposes and for treating diseases such as depression, Parkinson's disease, obesity or
                                           ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                 SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                       SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIORRTRLRLDGAREAA
                                                                                                                                                                                                             GPEPPPEAQPSPPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .,
                                                                                                                                                                                                                                                                                                                                                                              421 RAFTKLLCPQKLKIQPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                              Huvar A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Z
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADD22854 standard; protein; 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21-AUG-2000; 2000US-00642514.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           98US-00167354.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human histamine H3 receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Lovenberg TW, Erlander M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N-PSDB; ADD22860, ADD22861.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (ORTH ) ORTHO PHARM CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     prostate dysfunction.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2003-810293/76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           07-0CT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US6437100-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           hypertension.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 15-JAN-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20-AUG-2002.
                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                       g
                                                                                                                                                       ò
                                                                                                                                                                               g
                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                            유
                                                                                                                                                                                                                                                                                                                                             g
                                                                                                ò
                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                              ò
```

Match 100.0%; Score 2361; DB 7; Length 445; Local Similarity 100.0%; Pred. No. 3.1e-181; les 445; Conservative 0; Mismatches 0; Indels 0.

Matches 445; Conservative

Query Match

ö

ö

```
Karicheti V, Silos-Santiago I,
                                                                                                                                                                                                                                                                04-FEB-2003; 2003US-0444783P.
27-MAX-2003; 2003US-0457901P.
08-MAX-2003; 2003US-0468775P.
19-MAX-2003; 2003US-0471614P.
16-UIN-2003; 2003US-0478442P.
18-UIL-2003; 2003US-0488529P.
                                                                                                                                         14-JAN-2004; 2004WO-US000750.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  02-SEP-2003; 2003US-0499594P.
26-SEP-2003; 2003US-0506332P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (MILL-) MILLENNIUM PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2004-562167/54.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N-PSDB; ADQ89179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                      with a protein appearing as MDD22654, where the protein functions as a activity of the human histamine H3 receptor in response to ligand binding. The antibody blocks intracellular signaling activity of the human histamine H3 receptor in response to ligand binding. The antibody is useful for detecting and quantifying expression of human histamine H3 receptors, which may be useful for diagnostic, epidemiological or forensic purposes. The antibody is potentially useful in treating diseases such as depression, anxiety, schizophrenia, Parkinson's disease, obesity, hypertension, Tourette's syndrome, sexual dysfunction, drug addiction or drug abuse, cognitive disorders, Alzheimer's disease, obsessive-compulsive behaviour, panic attacks, pain, eating disorders and anorexia, cardiovascular and cerebrovascular disorders, diabetes, constipation, arrhythmia, ulcers, asthma, allergy, inflammation, or prostate dysfunction. The present sequence represents the histamine H3 receptor.
                                                                                           invention relates to a monospecific antibody immunologically reactive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWBYLSGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADSSLRTQNNFFILINIALSDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361 AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MERAPPOGPLNASCALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GPEPPPEAQPSPPPPCCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLAGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GPEPPPEAQPSPPPPPCCWGCWQKCHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKWVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           urological disorder; uropathic; cytostatic; urinary incontinence; benign prostatic hyperplasia; human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0%; Score 2361; DB 7; Length 445; 100.0%; Pred. No. 3.1e-181; ive 0; Mismatches 0; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human urological disorder related protein 8203 SEQ:132.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RAFTKLLCPQKLKIQPHSSLEHCWK 445
SEQ ID NO 7; 25pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADQ89180 standard; protein; 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21-OCT-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  fatches 445; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 445 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO2004065576-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADQ89180;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  \overset{\alpha}{\times}\overset{\times}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\circ}{\times}\overset{\overset
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
```

Eliasof SD

```
The present invention describes the use of polypeptides related to urological disorders for identifying a compound capable of treating a urological disorder, identifying a subject having a urological disorder. Or treating a subject having a urological disorder. Also described: (1) a method for identifying a subject having a urological disorder, (2) a method for identifying a subject having a urological disorder, and (3) a method for treating a subject having a urological disorder. The compound has uropathic and cytostatic activities. The polypeptides related to urological disorder are useful for identifying a compound capable of treating a urological disorder, identifying a urological disorder, or treating a subject having a urological disorder. Disorders include urinary incontinence and benign prostatic alsorder include urinary incontinence and benign prostatic related protein, which is used in the exemplification of the present
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301 ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIORRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SSIPEGHCYAEFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GPEPPPEAQPSPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241 GPEPPPEAQPSPPPPPGCWGCWGKGKBGBAMPLHRYGVGBAAVGAEAGEATLGGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
Use of polypeptides related to urological disorders, e.g. 44390, 5. 211 or for identifying a compound capable of treating a urological disorder or identifying and treating a subject having a urological
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 445;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%; Score 2361; DB 8;
100.0%; Pred. No. 3.1e-181
ive 0; Mismatches 0;
                                                                                                                                                                             Claim 1; SEQ ID NO 132; 542pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 100.
Best Local Similarity 100.
Matches 445; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 445 AA;
```

```
61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nucleic
                                                                                                                                                                                                                                                                                                                                                                         AAW92975
                                                             엄
                                                                                                           g
                                                                                                                                                               g
                                                                                                                                                                                                              g
                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                  요
                                                                                                                                                                                                                                                                                                               g
                                  ò
                                                                                        ò
                                                                                                                                        δ
                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                           Š
               360
                                       420
                                                     AVIVSIFGLCWAPYILLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The present invention provides a human histamine H3 receptor protein and nucleic acid encoding such protein. The invention is useful for identifying compounds that modulate the activity of human histamine H3 receptor. The invention is useful for treating a condition that is mediated by a human histamine H3 receptor in a patient and for treating parkingon's disease, obselty, Alzhaimer's disease, pain, stress, ulcers, constipation and non-insulin dependent diabetes mellitus. The present sequence is a human histamine H3 receptor protein.
                                                                                                                                                                                                                                                                              Human, Parkinson's disease; obesity; Alzheimer's disease; pain; stress;
ulcer; constipation; non-insulin dependent diabetes mellitus;
histamine H3 receptor; receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein useful
AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Novel isolated and purified human histamine H3 receptor protein usefu
for identifying modulators utilized for treating Parkinson's disease,
obesity, Alzheimer's disease, pain, stress or ulcers.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 445;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Score 2361; DB 8;
100.0%; Pred. No. 3.1e-181;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pyati J;
                                                                                         RAFTKLLCPQKLKIQPHSSLEHCWK 445
                                                                                                       RAFTKLLCPOKLKIOPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 11; SEQ ID NO 7; 26pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Huvar A,
                                                                                                                                                                                                                                                       Human histamine H3 receptor protein.
                                                                                                                                                                             ADR31458 standard; protein; 445 AA
                                                                                                                                                                                                                                                                                                                                                                                                           02-DEC-2003; 2003US-00727021.
                                                                                                                                                                                                                                                                                                                                                                                                                                   07-OCT-1998; 98US-00167354,
21-AUG-2000; 2000US-00642852.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Lovenberg TW, Erlander M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-PSDB; ADR31456, ADR31457.
                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LOVENBERG T W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2004-592726/57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ERLANDER M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HUVAR A.
PYATI J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 445 AA;
                                                                                                                                                                                                                                                                                                                                                           US2004156845-A1.
                                                                                                                                                                                                                                                                                                                                   Homo sapiens.
                                                                                                                                                                                                                               04-NOV-2004
                                                                                                                                                                                                                                                                                                                                                                                  12-AUG-2004.
                                                                361
                                                                                                                                                                                                      ADR31458;
                                      361
                                                                                         421
                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (HUVA/) F
(PYAT/) F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LOVE/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ERLA/)
                                                                                                                                                   임
                                                                                      ò
                                                                                                             g
                                    ò
```

```
120
                                                                                                                         240
                                                                                                                                                        240
                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This invention describes the isolation of a novel human muscarinic acetylcholine receptor 6 (mACHR-6), capable of modulating the effects of acetylcholine on acetylcholine responsive cells. mACHR-6 cDNAs and polypeptides may be used to detect naturally occurring mutations of the mACHR-6 gene and determine if a subject with the mutated gene is at risk of (or is predisposed to have) a mACHR-6 related disorder, modulate cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               for
                                                                                                                                                   181 SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLELDGAREAA
                                                                                                                                                                                                                                                                                                                                               ADSSIRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                         241 GPEPPPEAQPSPPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                                             301 ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKWVSQSFTQRFRLSRDRKVAKSL
                                                                                                                         SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                        241 GPEPPPEAQPSPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                           ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                                                                                                                                            AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             - useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   mACHR-6; muscarinic acetylcholine receptor 6; disorder; secretion; acetylcholine responsive cell; phosphatidylinositol turn-over; smooth muscle cell contraction; nervous system disorder; glandular; schizo-effective disorder; affective disorder; sleep disorder; movement disorder; eating disorder; drinking disorder; human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ids encoding muscarinic acetylcholine receptor 6 - useful the effects of acetylcholine on acetylcholine responsive
                                                                                                                                                                                                                                                                                                                                                                                               RAFTKLLCPOKLKIQPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                    421 RAFTKLLCPQKLKIQPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim la; Fig 1A-D; 59pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAW92975 standard; protein; 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           97US-00985090.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (MILL-) MILLENNIUM PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            97US-00985090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N-PSDB; AAX02885, AAX02886.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human mACHR-6 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 1999-214063/18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          04-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             04-DEC-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14-MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Goodearl AD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US5882893-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          16-MAR-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               modulating
                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAW92975;
                                                        121
                                                                                                                           181
                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                              361
```

ö

Gaps

ö

0; Indels

Matches 445; Conservative

ઠે a ò

Local Similarity

9 9 61 ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS 120

1 MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV

MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV

```
cc activity mediated by mACHR-6 (e.g. biological processes mediated by phosphatidylinositol turn-over and signalling), secretion of a molecule (e.g. an eurotransmitter or a glandular enzyme), or contraction of a contraction of a molecule censorth answers.

C smooth muscle cell, treat disorders mediated by abnormal mACHR-6 activity engant, and mach a mensic machina, amnestic spatial disorientation, Kluver-Bucy syndrome, and a landular and learning disability, visual contractions, perceptual disturbances, and Lewry body dementia associated dellrium), schizo-effective disorders (e.g. Alzheimer, and depressive illness), affective disorders, sleep disorders (e.g. REM sleep abnormalities, paradoxical sleep abnormalities, concavated deliness, and body temperature or respiratory depression captormaticies during sleep), pain generating mechanism disorders (e.g. related to prarkinson's disease), esting disorders (e.g. related to Parkinson's disease), esting disorders (e.g. insulin hypersecretion related obesity), drinking disorders (e.g. related issaes, urinary incontinence, oesophagaal achalasia, and civerticular disease, urinary incontinence, oesophagaal achalasia, and chronic obstructive airways disease), caddiac disorders (e.g. pathologic bradycardia or tachycardia, arrhythmia, flutter and fibrillation), and continued disorders (e.g. pathologic bradycardia or tachycardia, arrhythmia, flutter and fibrillation), and continued disorders (e.g. pathologic changes).
               88888888888888888888888888888888888
```

Sequence 445 AA;

```
120
                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                   120
                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                     GPEPPPEAQPSPPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV 300
                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                     ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                   9
                                                                                                   9
                                                                                      MERAPPDGPLINASGALAGEAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                       ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVITGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                       SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                           SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                      GPEPPPEAQPSPPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361 AVIVSIFGLCWAPYTLLMIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                   1 MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                  ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                    SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWBYLSGG
                                                                                                                                                                                                                                                                     SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                      ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                  Gaps
                                  ..
99.8%; Score 2357; DB 2; Length 445; 99.8%; Pred. No. 6.5e-181; ive 1; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RAFTKLLCPQKLKIQPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RAFTKLLCPQKLKIQPHSSLEHCWK 445
                                  Matches 444; Conservative
                  Local Similarity
                                                                                                                                                                                                  121
                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
 Query Match
                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                   ò
                                                                                              셤
                                                                                                                                 ò
                                                                                                                                                                 셤
                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
```

```
G protein coupled receptor; flh84g5; human; diagnosis; screening; therapy; antiparkinsonian; nootropic; neuroprotective; neuroleptic;
                                                                                                                          Human G protein coupled receptor flh84g5.
                AAY06322 standard; protein; 445 AA.
                                                                                       06-SEP-1999 (first entry)
                                                     AAY06322;
AAY06322
ID AAYC
XX AAY
XX AAYC
XX AAYC
XX YX DT 06-5
XX KW G PJ
```

antidepressant; antiarrythmic; antidiabetic; antlinflammatory; "transmembrane domain" 'note= "transmembrane domain" note= "transmembrane 'note= "transmembrane "transmembrane transmembrane 'note= "transmembrane ocation/Qualifiers 98WO-US025832. 98US-00042780. (MILL-) MILLENNIUM PHARM INC. 97US-00985090 .130 .380 .174 .219 .416 'note= 'note= 'note= phosphatidylinositol. Homo sapiens. WO9928470-A1. 04-DEC-1998; 04-DEC-1997: 17-MAR-1998; 10-JUN-1999 Key Domain Domain Domain Domain Domain Domain Domain

Distefano Xie M, Goodearl ADJ, Glucksmann MA, WPI; 1999-394858/33.

N-PSDB; AAX59167

New nucleic acid encoding an isolated G-protein coupled receptor useful for treating nervous system related disorders.

Claim 8a; Fig 1; 140pp; English.

The present sequence represents a novel human G protein coupled receptor, termed film84g5, as deduced from a human cerebellum cDNA clone (see AAX59167). The invention provides human, rat and mouse film84g5 concerned film84g5 and antisense nucleic acid molecules), expression regions of film84g5 and antisense nucleic acid molecules), expression concerned antibodies, and a method of modulating phosphatidylinositol metabolism. The film84g5 polypeptides and anethod of modulating phosphatidylinositol metabolism. The film84g5 polypeptides can (i) interact with a film84g5 ligand, such as cetylcholine or carnitine, (ii) interact with a film84g5 ligand, such as a calcium activated chloride channel or a potassium or cannel (e.g. a calcium activated chloride channel or a potassium con channel) (iv) modulate the release of a neurotransmitter, e.g. cactylcholine or carnitine from an enron, (vi) modulate a film84g5 ligand concentration, (v) modulate the release of a neurotransmitter, e.g. acepylcholine or carnitine from a neuron, (vi) modulate a film84g5 ligand concentration, to) modulate the release of a neurotransmitter, e.g. carcylcholine or carnitine from a neuron, (vi) modulate blospholipase (concentration, to) modulate concentration, (v) modulate conc disorders affecting pain generation mechanisms e.g. pain related to irritable bowel syndrome or chest pain; movement disorders e.g. Parkinson's disease related movement disorders; eating disorders e.g. insulin hypersecretion related obesity or drinking disorders, e.g.

```
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
diabetic polydipsia; smooth muscle related disorders, e.g. irritable bowel syndrome, diverticular disease, urinary incontinence, oesophageal achalasia or chronic obstructive airways disease; cardiac muscle disorders, e.g. pathologic bradycardia or tachycardia, arrhythmia, flutter or fibrillation; and gland related disorder such as xerostomia or diabetes mellitus. The products can also be used for detection, diagnosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human; muscarinic acetylcholine receptor 6; mACHR-6; detection; antiparkinsonian; nootropic; neuroprotective; neuroleptic; antidiabetic; antidecessant; antiarrhythmic; antiinfinematory; carnifine; pain; G-protein coupled receptor; nervous system related disorder; xerostomia; disorders affecting consciousness; affective disorder; movement disorder; tritable bowel syndrome; drinking disorder; gland related disorder; smooth muscle related disorder; cardiac muscle disorder; diababetes mellitus; diagnosis; drug screening.
                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                       ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                               ADSSLRTQNNFFLLINIA ISDFLVGAFCIPLYVPYVLTGRWTFCRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SSIPEGHCYAEFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GPEPPPEAQPSPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GPEPPFEAQPSPPPPGCWGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                                                                                                                                                                       1 MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                               1 MERAPPOGPINASGALAGEAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                              ;
                                                                                                                                                                                                                 Length 445;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human muscarinic acetylcholine receptor protein SEQ ID NO:2.
                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                 Score 2357; DB 2;
Pred. No. 6.5e-181;
1; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         34. .59
/label= transmembrane_domain
73. .91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RAFTKLLCPQKLKIQPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RAFTKLLCPQKLKIQPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAG67830 standard; protein; 445 AA
                                                                                                                                                                                                               99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                              Matches 444; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (revised)
                                                                                                                                                                                                                                     Local Similarity
                                                                                                                                  and drug screening
                                                                                                                                                                            Sequence 445 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20-MAR-2003
01-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAG67830;
                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAG67830
    8X88888XX
                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                             ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            THE LETTER OF THE PROPERTY OF 
                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
```

```
The present sequence represents human muscarinic acetylcholine receptor 6 (mACHR-6), which is a member of the G family of proteins. mACHR-6 has antiparkinsonian, nootropic, neuroprotective. neurologic, antidiabetic antidaperesant, antiarrhythmic and antiinfalammatory activities. The mACHR-6 protein, is capable of modulating the effects of a G-protein coupled ceceptor (GPCR) ligand such as acetylcholine or an acetylcholine like molecule such as carnitine, e.g. by modulating phospholipase C signalling/activity. Products from the present invention can be used for treating disorders mediated by abnormal mACHR-6 protein activity such as nervous system related disorders, disorders affecting consciousness, affective disorders such as RBM sheep abnormalities, disorders affecting pain generation mechanisms such as pain related to irritable bowel syndrome or chest pain, movement disorders, cardiac muscle disorders, and disorders, sendoth muscle related disorders, cardiac muscle disorders, and gland related disorders such as xerostomia or diabetes mallitus. The products can also be used for detection, diagnosis and drug screening.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New nucleic acid encoding an isolated G-protein coupled receptor useful for treating nervous system related disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SSIPEGHCYAEFFYWWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGARBAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 445;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99.8%; Score 2357; DB 2;
99.8%; Pred. No. 6.5e-181;
ive 1; Mismatches 0;
transmembrane domain
                                                     'label= transmembrane domain
                                                                                                                                     197. 219
/label= transmembrane_domain
                                                                                                                                                                                                360 380
/label= transmembrane_domain
                                                                                                                                                                                                                                                      396. .416
/label= transmembrane_domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (Updated on 20-MAR-2003 to correct DR field.)
                                                                                                       /label= transmembrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 1, Fig 1, 64pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  97US-00985090.
98US-00042780.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             98US-00165543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MILL-) MILLENNIUM PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Goodearl ADJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 1999-394858/33.
N-PSDB; AAH44572, AAH44573.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 445 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Glucksmann MA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                             02-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  04-DEC-1997;
17-MAR-1998;
                                                                                                                                                                                                                                                                                                                                               US6093545-A.
                                                                                                                                                                                                                                                                                                                                                                                                    25-JUL-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     444;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
                          Domain
                                                                                   Domain
                                                                                                                                           Domain
                                                                                                                                                                                                   Domain
                                                                                                                                                                                                                                                            Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Loca
Matches
```

ö

120

9 9

180 180

us-10-727-021-7.rag

```
piperidine derivatives (1), which are used for the freatment of disorders and diseases related to the histamine H3 receptor. (I) have anorectic, and diseases related to the histamine H3 receptor. (I) have anorectic, antidiabetic, antialersy, antiinflammatory, antiulcer, antilipaemic, cardiant, osteopathic, antiarthritic, auditory and cytostatic activities. (I) can be used for treating and/or preventing diseases and disorders related to H3 histamine receptor e.g. overweight or obesity, eating disorders (e.g. bulimia and binge eating), impaired glucose tolerance, type 2 diabetes, allergic rhinitis, ulcer, anorexia,
         300
                                                                     300
                                                                                                                                    360
                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Use of new and known aminoazetidine, pyrrolidine and piperidine derivatives for treating diseases related to histamine H3 receptor e.g. obesity, Alzheimer's disease and type 2 diabetes.
AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKNVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                                                                              AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Histamine H3 receptor; aminoazetidine; pyrrolidine; piperidine; anorectic; anabolic; antidiabetic; antiallergic; antinflammatory; antiulcer; nootropic; neuroprotective; tranquilliser; antiaremetic; antiatemmatic; antilippemeic; cardiant; osteopathic; antiarthritic; auditory; cytostatic; overweight; obesity; eating disorder; bulimia; bings eating; impaired glucose tolerance; type 2 diabetes; ulcer; allergic rhinitis; anorexia; Alzheimer's disease; narcolepsy; attention deficit disorder; dementia; motion sickness; vertigo; fritable bowel syndrome; gall Diadder disease; cancer; narcolepsy; coronary heart disease; osteoarthritis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 present invention describes aminoazetidine, pyrrolidine and
                                                                                                                                                                                                                                                                                                                                                                                                                            RAFTKLLCPOKLKIOPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                    RAFTKLLCPQKLKIQPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ) BOEHRINGER INGELHEIM INT GMBH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human histamine H3 receptor protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABR43667 standard, protein; 445 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Example; Page 38; 54pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14-SEP-2001; 2001DK-00001344.
16-MAY-2002; 2002DK-00000750.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       11-SEP-2002; 2002WO-DK000593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        24-JUL-2003 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Doerwald FZ, Hohlweg R;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (NOVO ) NOVO NORDISK AS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2003-363111/34.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO2003024928-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        27-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ABR43667;
                                                                                                                                                                                                                                                                                                                         361
                                                                     241
                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
      241
                                                                                                                                301
                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (воен
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ABRAJA67

ID ABRAJA
XX
XX
XX
XX
DT 24-JU
XX
DY 24-JU
XX
DE Human
XX
XX
M Antier
M
                                                        쉱
                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                             ò
```

```
240
                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS 120
            delaying or preventing the progression from non-insulin requiring type 2 diabetes, for reducing weight and suppressing appetite or satisty induction. (I) can also be used for treating dementia, motion sickness, vertigo, irritable bowel syndrome, gall bladder disease, cancer of breast, prostate and colon, narcolepsy, attention deficit disorder, airway disorders (e.g. asthma), dyslipidamna, coronary heart disease and osteoarthritis. (I) have high and selective binding affinity to the histamine H3 receptor. The present sequence represents the human histamine H3 receptor. The present given in the exemplification of the present invention
                                                                                                                                                                                                                                                                                                                                                                                    9
Alzheimer's disease, narcolepsy and attention deficit disorder, for the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241 GPEPPPEAQPSPPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                                                                                                                                                                                                                1 MERAPPOGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                      1 MERAPPDGPLNASGALAGEAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                            ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GPEPPPEAQPSPPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                                                                                                                            ..
0
                                                                                                                                                                                                                                                                    99.8%; Score 2357; DB 6; Length 445; 99.8%; Pred. No. 6.5e-181; ive 1; Mismatches 0; Indels (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RAFTKLLCPQKLKIQPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2, 2005, 20:39:18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    444; Conservative
                                                                                                                                                                                                                                                                                        Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          completed: June
                                                                                                                                                                                                                                  Sequence 445 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                            Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Job time
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Search
88666666666668888
                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  q
```

THIS PAGE BLANK (USPTO)

us-10-727-021-7.rpr

```
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
```

OM protein - protein search, using sw model

Run on:

June 2, 2005, 19:07:00 ; Search time 24 Seconds (without alignments) 1784.019 Million cell updates/sec

US-10-727-021-7 2361 1 MERAPPDGPLNASGALAGDA......LLCPQKLKIQPHSSLEHCWK 445 Title: Perfect score: Sequence:

Scoring table:

283416 seqs, 96216763 residues BLOSUM62 Gapop 10.0 , Gapext 0.5 Searched:

283416

Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database :

PIR 79:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

STIMMARIES

	Description	histamine H4 recep	muscarinic recepto		muscarinic acetylc		muscarinic acetylc	muscarinic acetylc	muscarinic acetylc		muscarinic acetylc		muscarinic acetylc	muscarinic acetylc	muscarinic acetylc		muscarinic acetylc	octopamine recepto	tyramine receptor	alpha-2C-adrenergi	alpha 2-adrenocept	alpha-2 adrenergic								
SUMMARIES	10	JC7566	151837	A29514	809508	A24325	A31897	S47572	S01114	S10128	B29514	S10127	833776	C29514	JT0530	JH0197	A29476	S10856	JT0531	A40972	S10126	A27386	A55019	A38316	A35546	JH0170	S12004	312	082	149481
	DB	2	~	7	~	7	~	N	~	7	N	7	~	~	~	~	~	7	7	~	~	7	~	7	~	~	~	7	7	7
	Query Match Length	390	460	460	460	460	460	290	290	290	589	479	479	478	532	466	589	466	531	466	466	466	639	450	490	601	601	461	432	450
df	Query Match	30.7	25.1	25.1	25.1	24.9	24.5	23.4	23.1	22.9	22.8	22.7	22.7	22.6	22.3	22.3	22.3	22.2	22.2	21.9	21.9	21.7	21.6	21.4	21.3	21.1	21.1	20.9	20.7	20.6
	Score	724	592	592	591.5	587.5	578	553.5	546.5	541	539	536	535	532.5	527.5	525.5	525.5	524.5	523.5	517.5	517.5	512.5	511	505.5	504		98.	493.5	٩.	485.5
			7	m	4	S	9	7	80	σ	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	56	27	28	29

alpha-2-C2 adrener	alpha-2A-adrenergi	alpha-2-adrenergic	muscarinic acetylc	alpha-2B-adrenergi	alpha-2 adrenergic	alpha-2-adrenergic	alpha-2B-adrenergi	alpha-2B-adrenergi	alpha-2B-adrenergi	alpha-2-adrenergic	histamine H1 recep	G protein-coupled	alpha 2C4 adrenoce	G protein-coupled	histamine H1 recep
221	169	392	657	883	[49480	392	223	A37869	642		632	JC5042	392	558868	JC1415
82822	A34169	B40392	S48657	151883	149	A40392	A37223	A37	A35642	OHO	A41632	JCS	A48392	S58	JCI
0	~	~	7	7	7	7	7	7	7	~	7	7	7	7	~
455	450	450	484	448	458	458	450	458	453	450	491	476	458	484	486
0.5	20.5	20.4	20.3	20.2	20.2	20.2	20.0	20.0	19.9	19.8	19.8	19.8	19.7	19.7	19.7
Ñ					_	8	ღ	2	469	'n	468	467	9	9	9
485 2	484.5	480.5	479	478	478	47	473	472	4	468.5	4	4	466	466	466

ALIGNMENTS

 RESULT 1 JC7566 hieramine H4 recentor HH4R - himan	
 iens (man #sequenc	.ext_change 09-Jul-2004
C; Accession: UC/566 R; Nakamura, T.; Itadani, H.; Hidaka, Y.; Ohta, M.; Ta	ınaka, K.
Ajrile: Molecular cloning and characterization of a new human histamine receptor,	new human histamine receptor, HH4R.
A)Contents: Leukocyte	r
A; Molecule type: mRNA	
 C;Comment: This receptor, belonging to the biogenic a C;Genetics: A;Gene: hM4r	to the biogenic amine receptors of G protein-coupled
C;Keywords: G protein-coupled receptor; transmembrane protein	e protein
 Query Match 30.7%; Score 724; DB 2; 3 Best Local Similarity 38.6%; Pred. No. 1.3e-43; Matches 131; Matches 131;	Length 390; : Indels 74: Gaps 10;
 ANTITIVE TANDERS OF	α
 Q n	
 Db 11 SLSTRVTLAFFMSLVAFAIMLGNALVILAFVVDKNLRHRSSYFFLNLAISDFFVGVISIP	RSSYFFLNLAISDFFVGVISIP 70
 QY 90 LYVPYULTGRWIFGRGLCKIMLVVDYLLCTSSAFNIVLISYDRFLSVTRAVSYRAQQGDT	SYDRFLSVTRAVSYRAQQGDT 149
 Db 71 LYIPHTLF-EWDFGKEICVFWLTTDYLLCTASVYNIVLISYDRYLSVSNAVSYRTQHTGV	
 Qy 150 RRAVRKMLLVWVLAFLLYGPAILSWEYLSGGSSIPEG-HCYAEFFYNWYFLITASTL	GG-HCYAEFFYNWYFLITASTL 205
 DD 130 LKIVTLMVAVWVLAFLVNGPMILVSESWKDEGSECEPGFFSEWYLLAITSFL	GSECEPGFFSEWYLLAITSFL 181
 Qy 206 EFFTPFLSVTFFNLSTYLNIQRRTRLRLDGAREAAGPEPPEAQPSPPFPPGCWGCWQKG	PPEAQPSPPPPGCWGCWQKG 265
DD 182 BFVIPVILVAYFNMNIY	WSLWKRD 205
Qy 266 HGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGVASPTSSSGSSSRGTERPR	SSSGSSSRGTERPR 318
Db 206 HLSRCQSHPGLTAVSSNICGHSFRGRLSSRRSLSASTEVPASFHSERQRRKS	SLSASTEVPASFHSERORRKS 257
Qy 319 SLKRGSKPSASSASLEKRMRMVSQSFTQRFRLSRDRKVAKSLAVIVSIFGLCWA	SRDRKVAKSLAVIVSIFGLCWA 372
Db 258 SIMFSERTKWASNTIASKWGSFSQSDSVALHQREHVELLRARRLAKSLAILLGVFAVCWA	I HITHITION IN THE STATE OF THE
Oy 373 PYTLIMITRAACHGHCVP-DYWYETSFWLLWANSAVNPVLYPLCHHSFRRAFTKLLCPOK 431	LYPLCHHSFRRAFIKLLCPOK 431
 DD 318 PYSLFTIVLSFYSSATGPKSVWYRIAFWLQWFNSFVNPLLYPLCHKRFQKAFLKIFC	

~

g

8

```
A;Cross-references: UNIPROT:P08482
R;Bonnear, T.1.; Buckley, N.J.; Young, A.C.; Brann, M.R.
Science 237, 527-532, 1987
A;Title: Identification of a family of muscarinic acetylcholine receptor genes.
A;Reference number: A94293; MUID:87263421; PMID:3037705
A;Recession: A94293; MUID:87263421; PMID:3037705
A;Recession: A94293; MUID:87263421; PMID:3037705
A;Recession: A94293
A;Molecule type: mRNA
A;Recession: A94293
A;Molecule type: mRNA
A;Recence number: Cerebral cortex
A;Note: only a part of the protein translation is given; none of the nucleotide sequence
R;Kutrenbach, E.; Curits, C.A.M.; Pedder, E.K.; Aitken, A.; Harris, A.C.M.; Hulme, E.C.
J; Biol. Chem. 265, 13702-13708, 1990
A;Title: Muscarinic acetylcholine receptors. Peptide sequencing identifies residues invol
A;Recence number: A37121; MUID:90337982; PMID:2380182
A;Accession: A37121
A;Status: preliminary
A;Molecule type: protein-coupled receptor; glycoprotein; neurotransmitter receptor; phosphof F;25-50/Domain: transmembrane #status predicted <TM3>
F;62-93/Domain: transmembrane #status predicted <TM4>
F;100-121/Domain: transmembrane #status predicted <TM4>
F;142-168/Domain: transmembrane #status predicted <TM5>
F;107-209/Domain: transmembrane #status predicted <TM6>
F;367-387/Domain: transmembrane #status predicted <TM6>
F;367-387/Domain: transmembrane #status predicted <TM6>
F;402-420/Domain: transmembrane #status predicted <TM6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -----SPTSSSGSSSRGT-ERPRSLKR-----GSKPSASSASLEKRMKMVSQSFT 345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    255 PPG-CWGC------WQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSVA- 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 255 PPGRCCRCCRAPRLLOAYSWKEEEEE-----DEGSMESLTSSEGEEP-----GSEVVI 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    muscarinic acetylcholine receptor M1 - human
C;Species: Homo sapiens (man)
C;Date: 31-Dec-1990 #sequence revision 31-Dec-1990 #text_change 09-Jul-2004
C;Accession: S09508; S06327; S04326
R;Chapman, C.G.; Browne, M.J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23 WQVAFIGITTGLLSLATVTGNLLVLISFKVNTELKTVNNYFLLSLACADLIIGTFSMNLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     152 AVRKMLLVWVLAFLLYGPAILSWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SES KIFSLVKEKKAARTLSAILLAFILTWIPYNIMVLVSTFCK-DCVPETLWELGYWLCYVNS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  92 VPYVLTGRWTFGRGLCKLWLVVDYLLCTSSAFNIVLISYDRFLSVTRAVSYRAQQGDTRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   142 AALMIGLAWLVSFVLWAPAILFWQYLVGERTVLAGQCYIQFLSQPIITFGTAMAAFYLP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               33 W-TAVLAALMALLIVATVLGNALVMLAFVADSSLRTQNNFFLLNLAISDFLVGAFCIPLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   303 KMPMVDSBAQAPTKQPPKSSPNTVKRPTKKGRDRGGKGQKPRGKE-QLAKR-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QRFRLSRDRKVAKSLAVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 460;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 25.1%; Score 592; DB 2; Length 46 Best Local Similarity 33.7%; Pred. No. 2.8e-34; Matches 149; Conservative 66; Mismatches 149; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  212 LSVTFFNLSIYLNIQRRTRLRLDGAREAA---GPEPP--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               412 TVNPMCYALCNKAFRDTFRLLL 433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ŝ
                                                                                                                                                                                                                                                                                                                       CiSpecies: Rattus 5.0. (rat)
CiSpecies: Rattus 5.0. (rat)
CiAccession: 151837
CiAccession: 151837
Rilai, J.; Smith, T.L.; Mei, L.; Ikeda, M.; Fujiwara, Y.; Gomez, J.; Halonen, M.; Roesi Adv. Exp. Med. Biol. 287, 313-330, 1991
A;Title: The molecular properties of the MI muscarinic receptor and its regulation of casted from GB/EMBL/DDBJ
A;Reference number: 151837
A;Reference number: 151837
A;Residues: preliminary; translated from GB/EMBL/DDBJ
A;Residues: 1-460 cRES>
A;Corssrreferences: GB:S73971; NID:g241253; PIDN:AAB20705.1; PID:g241254
C;Genetics:
A;Genetics:
A;Ge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          142 AALMIGLAWLVSFVLWAPAILFWQYLVGERTVLAGGCYIQFLSQPIITFGTAWAAFYLP- 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PPG-CWGC-------WQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSVA- 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            82
                                                                                                                                                                                                                                                                                              muscarinic receptor - rat
C;Species: Rattus sp. (rat)
C;Date: 26-Jul-1996 #sequence_revision 26-Jul-1996 #text_change 24-Nov-1999
C;Accession: IS1837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          muscarinic acetylcholine receptor M1 - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 30-Jun-1989 #sequence revision 30-Jun-1989 #text_change 09-Jul-2004
C;Accession: A94518; A94293; A37121; A29514
R;Bonner, T.I.
submitted to GenBank, July 1987
A;Reference number: A94518
A;Accession: A94518
A;Molecule type: mRNA
A;Residues: 1-460 <BOl>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         --VIVM-CTLYWRIYRETENR---ARELAALQGSETPGKGGGSSSSSERSQPGAEGSPES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             303 KMPMVDSEAQAPTKQPPKSSPNTVKRPTKKGRDRGGKGQKPRGKE-QLAKR------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PPGRCCRCCRAPRLLQAYSWKEEEEE-----DEGSMESLTSSEGEEP-----GSEVVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -----SPTSSSGSSSRGT-ERPRSLKR----GSKPSASSASLEKRMKMVSQSFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QRFRLSRDRKVAKSLAVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               W-TAVLAALMALLIVATVLGNALVMLAFVADSSLRTQNNFFLLNLAISDFLVGAFCIPLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AVRKMLLVWVLAFILYGPAILSWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 460;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 25.1%; Score 592; DB 2; Length 46
Best Local Similarity 33.7%; Pred. No. 2.8e-34;
Matches 149; Conservative 66; Mismatches 149; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LSVTFFNLSIYLNIQRRTRLNCAREAA---GPEPP----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TVNPMCYALCNKAFRDTFRLLL 433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          406 AVNPVLYPLCHHSFRRAFTKLL 427
                                                                : | ||
IKKQP 379
                 436
                                                                                     375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         212
```

엄 ò g g

ò

g

ò

ò

g

ò d ò g

à

17;

Gaps

78;

141 151

82

--PEAQPSPPP 254

ന

```
Muscarinic acetylcholine receptor - pig
C;Species: Sus scrofa domestica (domestic pig)
C;Scession: A24325
R;Kubo, T.; Fukuda, K.; Mikami, A.; Maeda, A.; Takahashi, H.; Mishina, M.; Haga, T.; Haga, Nature 323, 411-416, 1986
A;Title: Cloning, sequencing and expression of complementary DNA encoding the muscarinic A;Reference number: A24325; MUID:87014801; PMID:3762692
A;Accession: A24325; MUID:87014801; PMID:3762692
A;Reference number: DNIRROT:P04761; GB:X04413; NID:g1863; PIDN:CAA28003.1; PID:g1866
C;Superfamily: vertebrate rhodopsin
C;Keywords: G protein-coupled receptor; glycoprotein; neurotransmitter receptor; phosphor F;25-50/Domain: transmembrane #status predicted <TM1>F;62-91/Domain: transmembrane #status predicted <TM2>F;100-121/Domain: transmembrane #status predicted <TM3>F;100-121/Domain: transmembrane #status predicted <TM5>F;100-121/Domain: transmembrane #status predicted <TM5>F;100-121/Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  muscarinic acetylcholine receptor M1 - mouse
C;Species: Mus musculus (house mouse)
C;Date: 21-May-1990 #sequence_revision 21-May-1990 #text_change 24-Nov-1999
C;Accession: A31897
F;Shapiro, R.A.; Scherer, N.M.; Habecker, B.A.; Subers, E.M.; Nathanson, N.M.
J. Biol. Chem. 263, 18397-18403, 1988
A;Title: Isolation, sequence, and functional expression of the mouse M1 muscarinic acety]
A;Accession: A31897
A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGGSS 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           183 IPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGARBAA-- 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      63 SSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTSSA 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 281 DEGSMESLISSEGEEP-----GSEVVIKMPMVDPEAQAPAKQPPRSSPNTVKRPTRKG 333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RS-LKRGSKPSASSASLEKRMKWVSQSFTQRFRLSRDRKVAKSLAVIVSIFGLCWAPYTL 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4 APPDGPLNASGALAGDAAAAGGARGFSAAW-TAVLAALMALLIVATVLGNALVMLAFVAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5 APP------AVSPNITVLAPGKG---PWQVAFIGITTGLLSLATVTGNLLVLISFKVN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ----PEAQPSPPPPG-CWGC-----WQKGHGBAMPLH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              226 QGSETPGKGGGSSSSERSQPGAEGSPETPPGRCCRCCRAPRLLQAYSWKEEEEE----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           274 RYGVGEAAVGAEAGEATLGGGGGGGSVA------SPTSSSGSSSRGTERP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               89;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 2; Length 460;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              384 MVLVSTFCK-DCVPETLWELGYWLCYVNSTINPMCYALCNKAFRDTFRLLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             377 LMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFRRAFTKLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24.9%; Score 587.5; DB 2; Length 31.8%; Pred. No. 5.8e-34; ive 73; Mismatches 159; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity 31.8
Matches 150; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241 -GPEPP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                RESULT 5
A24325
muscarinic a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Accession: S06327
A; Molecule type: DNA
A; Residues: 1-460 -ALL>
A; TCOSB-references: GB:Y00508; GB:M35128; NID:g297405; PIDN:CAA68560.1; PID:g297406
B; Peralta, E.G.; Ashkenazi, A.; Winslow, J.W.; Smith, D.H.; Ramachandran, J.; Capon, D.J.
EMBO J. 6, 3923-3929; J1987
A; Title: Distinct primary structures, ligand-binding properties and tissue-specific expr
A; Reference number: S04326; MUD:88166632; PMID:3443095
A; Accession: S04326
A; Molecule type: DNA
A; References: EMBL:X15263; NID:g32317; PIDN:CAA33334.1; PID:g32318
C; Superfamily: vertebrate rhodopsin
C; Keywords: G protein-coupled receptor; glycoprotein; neurotransmitter receptor; phospho
C; Keywords: G protein-coupled receptor; glycoprotein; neurotransmitter receptor; phospho
C; Keywords: G protein-coupled receptor; glycoprotein; neurotransmit = #status predicted < TM3>
F; DOmain: transmembrane #status predicted < TM3>
F; 100-121/Domain: transmembrane #status predicted < TM5>
F; 100-121/Domain: transmembrane #status predicted < TM5>
F; 187-209/Domain: transmembrane #status predicted < TM5>
F; 187-209/Domain: transmembrane #status predicted < TM5>
F; 187-210/Domain: transmembrane #status predicted < TM5>
F; 187-212/Binding site: carbohydrate (Asn) (covalent) #status predicted
                                                         A; Title: Isolation of the human m1 (Hm1) muscarinic acetylcholine receptor gene by PCR a; Reference number: S09508; MUID: 90245684; PMID: 2336407
A; Accession: S09508; MUID: 90245684; PMID: 2336407
A; Accession: S09508
A; Status: nucleic acid sequence not shown; translation not shown
A; Molecule type: DNA
A; Residuae: 1-66 ocHA>
A; Cross-references: UNIPROF: P11229; EMBL: X52068; NID: 934450; PIDN: CAA36291.1; PID: 934451
A; Note: the nucleotide sequence was submitted to the EMBL Data Library, March 1990
A; Note: the nucleotide sequence was submitted to the EMBL Data Library, March 1990
A; Note: the nucleotide sequence was submitted to the EMBL Data Library, March 1990
A; Note: the nucleotide sequence was submitted to the EMBL Data Library, March 1990
A; FAllard, W.J.; Sigal, I.S.; Dixon, R.A.F.
A; Title: Sequence of the gene encoding the human MI muscaxinic acetylcholine receptor.
A; Reference number: S06327; MUID: 88096607; PMID: 3697105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SSLRTONNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTSSA 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             54 TELKTVNNYFLLSLACADLIIGTFSMNLYTTYLLMGHWALGTLACDLWLALDYVASNASV 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241 -GPEPP-----WQKGHGEAMPLH 273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ----SPISSSGSSSRGTERP 317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEGSMESLTSSEGEEP-----GSEVVIKMPMVDPEAQAPTKQPPRSSPNTVKRPTKKG 333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RS-LKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSLAVIVSIFGLCWAPYTL 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APP-----AVSPNITVLAPGKG---PWQVARIGITTGLLSLATVTGNLLVLISFKVN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGGSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       226 QCSETPGKGGGSSSSERSQPGAEGSPETPPGRCCRCCRAPRLLQAYSWKEEREE----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4 APPDGPLNASGALAGDAAAAGGARGFSAAW-TAVLAALMALLIVATVLGNALVMLAFVAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFRRAFTKLL 427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           89;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25.1%; Score 591.5; DB 2; Length 460; 32.1%; Pred. No. 3e-34; ive 73; Mismatches 158; Indels 89;
ucleic Acids Res. 18, 2191, 1990
Fitle: Isolation of the human ml (Hml) muscarinic acetylcholine
Reference number: 809508; MUID:90245684; PMID:2336407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    274 RYGVGEAAVGAEAGEATLGGGGGGGSVA------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches 151; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ഗ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local
```

a

g ઠે

ð

g

ઠે

a

ઠે

셤

ò

셤 ò g ઠે

ò

Query Match

g ઠે g g à g

ò

g

ò

용

ò

ò

g

ò g

```
Muscarinic acetylcholine receptor M2, glandular - pig

NiAlernate names: muscarinic acetylcholine receptor III
Cispecies: Sus scrofa domestica (domestic pig)
Cibate: 30-Sep-1989 #sequence_revision 30-Sep-1989 #text_change 09-Jul-2004
Cibate: 30-Sep-1989 #sequence_revision 30-Sep-1989 #text_change 09-Jul-2004
Cibate: 30-Sep-1989 #sequence_revision 30-Sep-1989 #text_change 09-Jul-2004
Cibate: 235, 257-261, 1988
A;Title: Frimary structure of porcine muscarinic acetylcholine receptor III and antagonic A;Reference number: S01114; MUID:88296835; PMID:3402600
A;Accession: S01114
A;Molecule type: DNA
A;Residues: 1-590 AKID
A;Residues: 1-590 AKID
A;Cross-references: UNIPROT:P11483; EMBL:X12712; NID:g1861; PIDN:CAA31215.1; PID:g1862
C;Superfamily: vertebrate rhodopsin
C;Keywords: G protein-coupled receptor; glycoprotein; neurotransmitter receptor; transmen F;68-91/Domain: transmembrane #status predicted ATM3>
F;105-125/Domain: transmembrane #status predicted ATM3>
F;105-104/Domain: transmembrane #status predicted ATM3>
F;105-104/Domain: transmembrane #status predicted ATM3>
F;105-105/Domain: transmembrane #status predicted ATM3>
F;105-105/Dom
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         17;
               18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       324 AEQMDQDHSSSDSWNNNDAAASLENSASSDEEDIGSETRAIYSIVLKLPGHSTILNSTKL 383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        384 PSSDNLQVPEEELGSVGLERKPSKLQTQQSMDDGGSFQKSFSKLPIQLESAVDTAKASDV 443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQS-FTQRFRLS--RDRKVAKSLA 361
                                                                                                                                                         88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              54
                                                                                    54
                                                                                                                                                                                                                                                                            89 VIVAFKVNKQLKTVNNYFLLSLACADLIIGVISMNLFTTYIIMNRWALGNLACDLWLSID
                                                                                                                                                                                                                                                                                                                                                                                    115 YLLCTSSAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSW
                                                                                                                                                                                                                                                                                                                                                                                                                          5 PPD-----GPLNASGALAGDAAAAGGAR----GFSAAWTAV-LAALMALLIVATVLGNAL
                                                                                                                                                             30 PPGTVTHFGSYNISRA-AGNLSSPNGTTSDPLGGHTIWOVVFIAFLTGVLALVTIIGNIL
                                                                                                                                                                                                                                      55 VMLAFVADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            267 GL-QASGTE--AEAENFVHPTGSSRSCSSYELQQQSMKRSARRKYGRCHFWFTTKSWKPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           362 VIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5 PPD-----GPLNASGALAGDAAAAGGAR----GFSAAWTAV-LAALMALLIVATVLGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -------GEAT------
               Gaps
           139;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; Score 546.5; DB 2; Length 590;
; Pred. No. 5.7e-31;
87; Mismatches 177; Indels 139;
           86; Mismatches 175; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           F)185-207/Domain: transmembrane #status predicted <TM4> F)231-252/Domain: transmembrane #status predicted <TM5-F)433-513/Domain: transmembrane #status predicted <TM6-F)433-5146/Domain: transmembrane #status predicted <TM6-F)528-546/Domain: transmembrane #status predicted <TM7-F)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAREAAGPEPPEAQPSPPPPGCWGC-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    23.1%;
26.6%;
               149; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches 146; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 422 AFTKLLCPQ 430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      554 TFKMLLLCQ 562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    235 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     262
           Matches
                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
A;Residues: 1-460 <SHA>
A;Residues: 1-460 <SHA>
A;Note: the authors translated the codon ATC for residue 119 as Thr
B;Note: the authors translated the codon ATC for residue 119 as Thr
B;Note: Loha. 264, 6596, 1989
A;Reference number: A92742
A;Reference number: A92742
A;Reference number: A92742
A;Reference number: A92742
C;Superfamily: vertebrate rhodopsin
C;Reywords: G protein-coupled receptor; glycoprotein; neurotransmitter receptor; phosphc C;Superfamily: vertebrate affectus predicted <TM1>
F;55-50,Domain: transmembrane #status predicted <TM3>
F;10-121/Domain: transmembrane #status predicted <TM3>
F;142-168/Domain: transmembrane #status predicted <TM4>
F;142-168/Domain: transmembrane #status predicted <TM5>
F;187-209/Domain: transmembrane #status predicted <TM6>
F;367-387/Domain: transmembrane #status predicted <TM6>
F;402-420/Domain: transmembrane #status predicted <TM7>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ц
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cross-references: UNIPROT:P41984; EMBL:U08286; NÌD:g520465; PIDN:AAA51866.1; PID:g5204
Superfamily: vertebrate rhodopsin
Keywords: neurotransmitter receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ę
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    muscarinic acetylcholine receptor m3 - bovine
C;Species: Bos primigenius taurus (cattle)
C;Species: Bos primigenius taurus (cattle)
C;Date: 27-Jan-1995 #sequence_revision 27-Jan-1995 #text_change 09-Jul-2004
C;Accession: S47572
R;Lee, P.H.K.; Hodges, P.K.; Glickman, F.; Chang, K.J.
Biochim. Biophys. Acta 1223, 151-154, 1994
A;Title: Cloning and expression of a cDNA encoding bovine muscarinic acetylcholine mA;Reference number: S47572; MUID:94339178; PMID:8061048
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PPGRCCRCCRAPRILOAYSWKEEEEE----DEGSMESIJSSEGEEP-----GSEVVI 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          --PEAQPSPPP 254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AVRKMLLVWVLAFLLYGPAILSWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AALMIGLAWLVSFVLWAPAILFWQYLVGERTVLAGQCYIQFLSQPIITFGTAMAAFYLP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               --VTVM-CTLYWRIYRETENR---ARELAALQGSETPGKGGGSSSSSERSQPGAEGSPES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PPG-CWGC-----WOKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGGSVA-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           33 W-TAVLAALMALLIVATVLGNALVMLAFVADSSLRTQNNFFLLNLAISDFLVGAFCIPLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VPYVLTGRWTFGRGLCKLWLVVDYLLCTSSAFNIVLISYDRFLSVTRAVSYRAQQGDTRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -----SPTSSSGSSSRGT-ERPRSLKR----GSKPSASSASLEKRMKMVSQSFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QRFRLSRDRKVAKSLAVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KMPMVDPEAQAPTKQPPKSSPNTVKRPTKKGRDRGGKGQKPRGKE-QMAKR-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2; Length 590;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       24.5%; Score 578; DB 2; Length 460; 33.0%; Pred, No. 2.7e-33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                68; Mismatches 150; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 553.5; DB 2
Pred. No. 1.8e-31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LSVTFFNLSIYLNIQRRTRLRLDGAREAA---GPEPP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TVNPMCYASCNKAFRDHFRLLL 433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AVNPVLYPLCHHSFRRAFTKLL 427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               23.4%;
27.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A, Accession: S47572
A, Status: preliminary
A, Molecule type: mRNA
A, Residues: 1-590 <LEE>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Sim:
Matches 146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  302
```

S

```
Ajaccession: B94293
Ajaccession: B94293
Ajaclecule type: manNA
Ajaclecule type: manNA
Ajaclecule type: manNA
Ajaclecule type: manNA
Ajaccession: 1-269;463-589 < B02>
Ajaccession: 2-269;463-589 < B02>
Ajaccession: 2-269;463-589 < B02>
Ajaccession: Ajaccession: B3121; MUID:90337982; PMID:2380182
Ajaccession: B3121
Ajaccession: B3121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AjMolecule type: protein
AjResidues: 104-166 xCMS.
AjResidues: 104-166 xCMS.
CjSuperfamily: vertebrate rhodopsin
CjReywords: G protein-coupled receptor; glycoprotein; neurotransmitter receptor; transmen
F;67-90/Domain: transmembrane #status predicted <TMM>
F;104-124/Domain: transmembrane #status predicted <TM2>
F;142-163/Domain: transmembrane #status predicted <TM3>
F;142-163/Domain: transmembrane #status predicted <TM3>
F;142-163/Domain: transmembrane #status predicted <TM3>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Cross-references: UNIPROT: P08483
A;Cross-references: UNIPROT: P08483
Science 237, 527-532, 1987
Science 237, 527-1987
A;Title: Identification of a family of muscarinic acetylcholine receptor genes.
A;Reference number: A94293; MUID:87263421; PMID:3037705
                                  EYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLBLD 234
                                                                                                                                                                                                                                                           267 GL-QASGTE--AETENFVHPIGSSRSCSSYELQQQSMKRSNRRKYGRCHFWFTTKSWKPS 323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 324 SEQMDQDHSSSDSWNNNDAAASLENSASSDEBDIGSETRAIYSIVLKLPGHSTILNSTKL 383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         384 PSSDNLQVPEEELGMVDLERKADKLQAQKSVDDGGSFPKSFSKLPIQLESAVDTAKTSDV 443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKAVSQS-FTQRFRLS--RDRKVAKSLA 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 362 VIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFRR 421
                                                                                                               YLLCTSSAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSW 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ----ASPT 304
  VMLAFVADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVD 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C;Species: Rattus norvegicus (Norway rat)
C;Date: 30-Jun-1989 #sequence_revision 30-Jun-1989 #text_change 09-Jul-2004
C;Accession: B94518; B94293; B37121; B29514
                                                                                                                                                                                                                                                                                                                                                                                                                                               --------GEATLGGG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAREAAGPEPPEAQPSPPPPPGCWGC------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          muscarinic acetylcholine receptor M3 - rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;Accession: B94518; B94293; B371
R;Bonner, T.I.
submitted to GenBank, July 1987
A;Reference number: A94518
A;Accession: B94518
A;Molecule type: mRNA
A;Residues: 1-589 <B01>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              422 AFTKLL---CPQK 431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              554 TřKMLLCQCDKK 566
     55
                                                         89
                                                                                                                                                                                                                                                                                                                                  235
                                                                                                                                                                                                                                                                                                                                                                                                                                               262
                                                                                                               115
                                                                                                                                                                                                                           175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     305
                                                                                                                                                          g
                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                      g
                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cispecies: Homo sapiens (man)
Cipate: 31-Dec-1990 #sequence_revision 31-Dec-1990 #text_change 09-Jul-2004
Cipate: 31-Dec-1990 #sequence_revision 31-Dec-1990 #text_change 09-Jul-2004
Cipate: 31-Dec-1990 #sequence_revision 31-Dec-1990 #text_change 09-Jul-2004
Cipates 510128
R: Peralta: State Sta
                                                                                                                                                                                                                                               207
                                                                                                                     234
                                                                                                                                                                                                                                                                                                                                        261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GL-QASGTE--AEAENFVHPTGSSRSCSSYELQQQSLKRSARRKYGRCHFWFTTKSWKPS 323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQS-FTQRFRLS--RDRKVAKSLA 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VMLAFVADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVD 114
                                                                                                                                                                                            115 YLLCTSSAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSW 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  324 AEQMDQDHSSSDSWNNDDAASLENSASSDEEDIGSETRAIYSIVLKLPGHSTILNSTKL 383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ----- ASPT 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PSSDNLQVPEEELGTVDLERKASKLQAQKSMDDGGSFQKSFSKLPIQLESAVDTAKASDV 443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFRR 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            54
                               88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               30 PPGTVTHFGSYNVSRA-AGNFSSPDGTTDDPLGGHTVWQVVFIAFLTGILALVTIIGNIL 88
EYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -------WOKGHGEAMPLHRYGVGEAAVGAEA-------GEATLGGG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PPD-----GPLNASGALAGDAAAAGGAR----GFSAAWTAV-LAALMALLIVATVLGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             F;525-546/Domain: transmembrane #status predicted ..... #status predicted F;5,6,15,41/Binding site: carbohydrate (Asn) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22.9%; Score 541; DB 2; Length 590; 26.2%; Pred. No. 1.4e-30; ive 88; Mismatches 178; Indels 142;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       muscarinic acetylcholine receptor M4 - human
                                                                                                                                                                                                                                                                                                                                                                                                                     GAREAAGPEPPEAQPSPPPPGCWGC-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           422 AFTKLLCPQ 430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    554 TFKMLLLCQ 562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      145;
                                                                                     55
                                                                                                                                                                                                                                                                                                        175
                                                                                                                                                                                                                                                                                                                                                                                                                  235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Loca
Matches
                                                                                                                             셤
                                                                                                                                                                              ð
                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                               셤
                                                                             ò
                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
```

14;

67 65 315

345

ò 셤 g

ò

ò

g

g

ò

g

ò

g ò 셤

ò

g

ò

셤

ò

```
A,Accession: S33776
A,Molecule type: DM.
A,Robeule type: DM.
A,Residues: 1-479 < KOD>
A,Residues: 1-479 < KOD>
A,Residues: 1-479 < KOD>
A,Residues: 1-470 < KOD>
A,Residues: 1-470 < KOD>
A,Residues: 1-470 < KOD>
A,Cross-references: UNIPROT:P32211; EMBL:X63473; NID:g296913; PIDN:CAA45071.1; PID:g29691
C,Superfamily: Vertebrate rhodopain: properties of the ceeptor; glycoprotein; neurotransmitter receptor; phosphog F;31-56/Domain: transmembrane #status predicted <TMI>
F;30-31/Domain: transmembrane #status predicted <TMI>
F;106-127/Domain: transmembrane #status predicted <TMI>
F;107-170/Domain: transmembrane #status predicted <TMI>
F;117-170/Domain: transmembrane #status predicted <TMI>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      muscarinic acetylc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     386 RKKKROMAARERKVTRIIFAILLAFILIWIPYNVMVLVNTFCQS-CIPDIVWSIGYWLCYV 444
                                                                                                                                                                                                                                                                                                                                                                                                                                                   128 ISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGGSSIPEGH 187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ------PEPPP-----EAQPSP--PPPPGCWGCWQKGHGEAMPLHR 274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----ADKDT----SNESSSGSATQNTKERPATELSTTEATTPAMPA 325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             403
                                                                                                                                                                                                                                                                         68 QNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTSSAFNIVL 127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  243 AFLKSPLMKQSVKKPPPGEAAREELRNGKLEEAPPPALPPPP-------RPV-- 287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |:| | | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : |:| | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : 
                                                                                                                                                                                                                                                                                                                   NNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTSSAFNIVLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CYARFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRL---RLDGAREAAG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |: :| | : | : | : | CFIQFLSNPAVTFGTAIAAFYLPVVIMTV--LYIHISLASRSRVHKHRPEGPKEKKAKTL
                                                                                           9 PLN-ASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFVADSSLRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         275 YGVGEAAVGAEAGEATLGGGGGGSVASPTSSSGSSSRGTE---------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QRFR--LSRDRKVAKSLAVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        #text_change 09-Jul-2004
                                                                                                                                                                              6 PVNGSSGNQSVRLVTSSSHNRYETVEMVFIATVTGSLSLVTVVGNILVMLSIKVNRQLQT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    94; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFVADSSLRTQ
         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ę
         130; Conservative 101; Mismatches 150; Indels 126;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 2; Length 479;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'Match 22.7%; Score 535; DB 2; Length 479
Local Similarity 25.9%; Pred. No. 3e-30;
les 127; Conservative 96; Mismatches 174; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S33776

muscarinic acetylcholine receptor m4 - mouse
C;Species: Mus musculus (house mouse)
C;Date: 08-Dec-1993 #sequence_revision 01-Dec-1995 #text
C;Accession: 833776; 833135
R;van Koppen, C.J.; Lenz, W.; Nathanson, N.M.
Biochim. Biophys. Acta 1173; 342-344, 1993
A;Title: Isolation, sequence and functional expression o
A;Reference number: 833776; MUID:93305731; PMID:7916637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F;192-215/Domain: transmembrane #status predicted <TM4>F;402-422/Domain: transmembrane #status predicted <TM5>F;402-422/Domain: transmembrane #status
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            F;402-422/Domain: transmembrane #status predicted <TM6>
F;434-455/Domain: transmembrane #status predicted <TM7>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ---RPRSLKRGSKPS-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           404 NSAVNPVLYPLCHHSFRRAFTKLLCPQ 430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Loc
Matches
         Matches
                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             muscarinic acetylcholine receptor M3 - human C;Species: Homo sapiens (man)
C;Species: Homo sapiens (man)
C;Species: Homo sapiens (man)
C;Date: 31-Dec-1990 #sequence_revision 31-Dec-1990 #text_change 09-Jul-2004
C;Accession: S10127
R;Peralta, E.G.; Ashkenazi, A.; Winslow, J.W.; Smith, D.H.; Ramachandran, J.; Capon, D.J BMBO J. 6, 3923-3929, 1987
A;Title: Distinct primary structures, ligand-binding properties and tissue-specific expr A;Reference number: S04326; MUID:88166632; PMID:3443095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: DNA
A; Residues: 1-479 < PER>
A; Residues: 1-479 < PER>
A; Residues: 1-479 < PER>
A; Cross-references: UNIPROT. P08173; EMBL: X15265; NID: g32321; PIDN: CAA33336.1; PID: g32322
C; Superfamily: vertebrate rhodopain
C; Superfamily: vertebrate rhodopain
C; Keywords: G protein-coupled receptor; glycoprotein; neurotransmitter receptor; phosphote; p3.2-57, Domain: transmembrane #status predicted < TML>
F; 70-94 (Domain: transmembrane #status predicted < TM2>
F; 106-128 (Domain: transmembrane #status predicted < TM3>
F; 106-128 (Domain: transmembrane #st
                                                                                                                                                                                                                                                                                                                                                                                                                                                        CIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTSSAFNIVLISYDRFLSVTRAVSYRAQQ 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PYMPVTIMITILYWRIYKETEKRIK-ELAGL-QASGTE--AEAENFVHPTGSSRSCSSYEL 294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DIGSETRAIYSIVLKLPGHSSILNSTKLPSSDNLQVSNEDLGTVDVERNAHKLQAQKSMG 414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  337 MKMVSQS-FTQRFRLS--RDRKVAKSLAVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYW 393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FALKTRSQITKRKRMSLIKEKKAAQTLSAILLAFIITWTPYNIMVLVNTFCDS-CIPKTY 524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -- WOKGHGEAMPLHRYGVGEA 280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QQQGVKRSSRRKYGRCHFWFTTKSWKPSAEQMDQDHSSSDSWNNNDAAASLENSASSDEE 354
                                                                                                                                                                                                                                                                                                                                                                                                          86
                                                                                                                                         predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SMNLFTTYIIMNRWALGNLACDLWLSIDYVASNASVMNLLVISFDRYFSITRPLTYRAKR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GFSAAWTAV-LAALMALLIVATVLGNALVMLAFVADSSLRTONNFFLLNLAISDFLVGAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ----GEATLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ---GGSVASPISSSGSSSRGIERPRSLKRGSKPSASSASLEKR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAAGPEPPPEAQPSPPPPGCWGC----
                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (covalent) #status predicted
                                                                                                                                                                                                     22.8%; Score 539; 26.2%; Pred. No. 1.96-30; Five 83; Mismatches 168; Indels 130;
F;230-251/Domain: transmembrane #status predicted <TM5>
F;492-512/Domain: transmembrane #status predicted <TM6>
F;527-545/Domain: transmembrane #status predicted <TM7>
F;615,41,48,52/Binding site: carbohydrate (Asn) (covalent) #status
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 479;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        F;192-216/Domain: transmembrane #status predicted <TM5>F;401-422/Domain: transmembrane #status predicted <TM6>F;433-456/Domain: transmembrane #status predicted <TM7>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                394 YETSFWLLWANSAVNPVLYPLCHHSFRRAF-TKLLC 428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 536; DB 2;
Pred. No. 2.5e-30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F;3,8,13/Binding site: carbohydrate (Asn)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                22.7%;
25.6%;
                                                                                                                                                                                                                                                                                                              Matches 135; Conservative
                                                                                                                                                                                                                                                                     Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AVGAEA---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGGG----
                                                                                                                                                                                                                                                                                                                                                                                                     28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         466
                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              525
```

11;

ŝ

ઠે

ઠે g ઠે 유 ઠે ద ઠે ર્જ 요

```
C;Accession: JT0530
R;Bonner, T.1.; Young, A.C.; Brann, M.R.; Buckley, N.J.
Neuron 1, 403-410, 1988
A;Title: Cloning and expression of the human and rat m5 muscarinic acetylcholine receptor A;Reference number: JT0530; MUID:90166521; PMID:3272174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A Molecule type: DNA
A, Residues: 1-532 < BON>
C, Comment: Muscarinic acetylcholine receptors mediate many of the actions of the neurotracy comment: Muscarinic acetylcholine receptors mediate many of the actions of the neurotracy cycomment: Muscarinic acetylcholine receptor; glycoprotein; neurotransmitter receptor; phosphore 7,80-53/Domain: transmembrane #status predicted <TMI>
F,67-87/Domain: transmembrane #status predicted <TMI>
F,105-126/Domain: transmembrane #status predicted <TMI>
F,1105-14/Domain: transmembrane #status predicted <TMI>
F,141-169/Domain: transmembrane #status predicted <TMI>
F,44-464/Domain: transmembrane #status predicted <TMI>
F,479-498/Domain: transmembrane #status pred
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15;
12;
                                                                                                                                                                                                                            128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            : | ... | | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ...
                                                                                                                                                                                                                                                                                                                                                                                  129 SYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGGSSIPEGHC 188
                                                                                                                                                                                                                                                                                                                                                                                                                     242 ------PPPPGCWQKGHGEAMPLHRY 275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         243 FLKSPLMKPSIKKPPPGGASREELRNGKLEEAPPPALPPPP-------RPVP---- 287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ---DKDTSNESSSSATONİKERPPTELSTAEATTPALPAP 325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                92 VPYVLTGRWTFGRGLCKLWLVVDYLLCTSSAFNIVLISYDRFLSVTRAVSYRAQQGDTRR 151
                                                                                                                                                 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 muscarinic acetylcholine receptor MS - human
C;Species: Homo sapiens (man)
C;Date: 31-Mar-1992 #sequence_revision 31-Mar-1992 #text_change 21-Jan-2000
                                                                                                                                                                                                                                                                        66 NNYFLFSLGCADLIIGAFSMNLYTLYIIKGYWPLGAVVCDLWLALDYVVSNASVMNLLII
                                                                                                                                                                                                                        69 NNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTSSAFNIVLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                189 YAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRL---RLDGAREAAG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               --RPRSLKRGSKPS-------ASSASLEKRMKMVSQSFTQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   347 RFR--LSRDRKVAKSLAVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWAN
                                                                          9 PLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFVADSSLRTQ
                                                                                                                                             6 PVNGSSANQSVRLVTAAHNHLETVEMVFIATVTGSLSLVTVVGNILVMLSIKVNRQLQTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           276 GVGEAAVGAEAGEATLGGGGGGGGSVASPTSSSGSSSRGTE--------------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              33 WTAV-LAALMALLIVATVLGNALVMLAFVADSSLRTQNNFFLLNLAISDFLVGAFCIPLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     28 WEVITIAAVTAVVSLITIVGNVLVMISFKVNSQLKTVNNYYLLSLACADLISGIFSMNLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (covalent) #status predicted
   125;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 2; Length 532;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22.3%; Score 527.5; DB 2; Length 92.4%; Pred. No. 1.1e-29; ive 79; Mismatches 165; Indels
   96; Mismatches 158; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | :|| | ||::|::| | || || | 445 STINPACYALCNATFKKTFRHLLLCQ 470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SAVNPVLYPLCHHSFRRAFTKLLCPQ 430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 F;8,13/Binding site: carbohydrate (Asn)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity 27.4 Matches 139; Conservative
   127; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Accession: JT0530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 316
   Matches
                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         엄
                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                  ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; Reywords: G protein-coupled receptor; glycoprotein; neurotransmitter receptor; phospho; 3.3.-56/Domain: transmembrane #status predicted <TM1>
; 69-93/Domain: transmembrane #status predicted <TM2>
; 106-127/Domain: transmembrane #status predicted <TM3>
; 1107-170/Domain: transmembrane #status predicted <TM4>
; 137-170/Domain: transmembrane #status predicted <TM6>
; 140-121/Domain: transmembrane #status predicted <TM6>
; 1401-421/Domain: transmembrane #status predicted <TM6>
; 1413-454/Domain: transmembrane #status predicted <TM7>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Molecule type: mRNA
A; Residues: 1-233;373-478 <BO2>
A; Residues: 1-233;373-478 <BO2>
A; Residues: 1-233;373-478 <BO2>
A; Note: only a part of the protein translation is given, none of the nucleotide sequence
R; Kurtenbach, E.; Curtis, C.A.M.; Pedder, E.K.; Aitken, A.; Harris, A.C.M.; Hulme, E.C.
B. Biol. Chem. 265, 13702-13708, 1990
A; Title: Muscarinic acetylcholine receptors. Peptide sequencing identifies residues invo
A; Reference number: A37121; MUID: 90337982; PMID: 2380182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Science 237, 527-532, 1987
A;Title: Identification of a family of muscarinic acetylcholine receptor genes.
A;Reference number: A94293; MUID:87263421; PMID:3037705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           419
                                                                                                                                                                                                                                                                                                                                                                                  -----PEPPP-----EAQPSP--PPPPGCWGCWGKGHGEAMPLHRY 275
                                                                                                                                                                                                                                                                                                                                                                                                                                                             283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ------ASSASLEKRMKMVSQSFTQRFR--LSRDRKVAKS 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NNYFLFSLACADLIIGAFSMNLYTLYIIKGYWPLGAVVCDLWLALDYVVSNASVMNLLII 125
                                                                                                              189 YAEPPYNWYPLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRL---RLDGAREAAG---- 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                276 GVGEAAVGAEAGEATLGGGGGGSVASPTSSSGSSSRGTE-----RPRSLKRGSKPS-327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   --RPVADKDTSNESSSGSATQNTKERPPTELSTTEAATTPALPAPTLQPRTLNPASKWSK 341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  muscarinic acetylcholine receptor M4 - rat
muscarinic acetylcholine receptor M4 - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 30-Jun-1989 #sequence revision 30-Jun-1989 #text_change 24-Nov-1999
C;Accession: C94518; C94293; E37121; C29514
R;Bonner, T.I.
B;Bonner, T.I.
A;Reference number: A94518
A;Reference number: A94518
                                                                                                                                                                                                                                                                        342 IQIVTKQTGSECVTAIEIVPATPAGMRPAANVARKFASIARNQVRKKRQMAARERKVTRT
                                                                              SYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGGSSIPEGHC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360 LAVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 478;
                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Molecule type: mRNA
A;Residues: 1-478 <BO1>
R;Bonner, T.I.; Buckley, N.J.; Young, A.C.; Brann, M.R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 532.5; DB 2 Pred. No. 4.4e-30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;8,13/Binding site: carbohydrate (Asn)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Molecule type: protein;Residues: 68-130 <KUR>;Superfamily: vertebrate rhodopsin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                22.6%;
25.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420 RRAFTKLLCPQ 430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                :: | || |
461 KKTFRHLLLCQ 471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Accession: C94293
                                                                                                                                                                                                                                                                                                                                                                                  242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Accession:
                                                                                                                              셤
                                                                                                                                                                                                                                                                                   요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
```

```
251 SPPPPGCWGCWQKGHGEAMP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Search completed: June
Job time : 26 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       428 -CPQK 431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      456 MCHYK
                                                                     131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                 음
                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Molecule type: DNA
A;Residues: 1-466 <LAI>
R;Kurtenbach, E.; Curtis, C.A.M.; Pedder, E.K.; Aitken, A.; Harris, A.C.M.; Hulme, E.C.
J. Biol. Chem. 265, 13702-13708, 1990
A;Title: Muscarinic acetylcholine receptors. Peptide sequencing identifies residues invo
A;Reference number: A37121; MUID:90337982; PMID:2380182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       glycoprotein; neurotransmitter receptor; transme
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             by the polymerase chain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 22.3%; Score 525.5; DB 2; Length 466; Sest Local Similarity 26.8%; Pred. No. 1.3e-29; Aatches 130; Conservative 94; Mismatches 170; Indels 91; Gaps 12;
236
                                                                                                                                                                                                                                                                                                                                                                              263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | FFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTSSAFNIVLISY 130
                                                                                                                                                                                                                                                                                   267 NQASWSSRRSTSTTGKPSQATGPSANWAKAEQLTTCSSYPSSEDEDKPATDPVLQVVY- 325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              326 KSQGKESP-----GE-EFSAEETEETF-----VKAETEKSDYDTPNYLLSPAAAHR 370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRSLK------RGSK------BSASK-------BSASSASLEKRMKNVSQSFTQRF 348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R--LSRDRKVAKSLAVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSA 406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AVRKMLLVWVLAFLLYGPAILSWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTPF 211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        muscarinic acetylcholine receptor M2 - rat
C;Species: Rattus norvegicus (Norway rat)
C;Date: 16-58p-1992 #sequence revision 16-58p-1992 #text_change 24-Nov-1999
C;Accession: JH0197; D37121
R;Lai, J.; Bloom, J.W.; Yamamura, H.I.; Roeske, W.R.
Life Sci. 47, 1001-1013, 1990
A;Ftlle: Amplification of the rat m2 muscarinic receptor gene by the polymer A;Reference number: JH0197; MUID:91041524; PMID:2172674
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LSVTFFNLSIYLNIQRRTR--LRLDGA-----
                                                                                                                                                                                                                                                                                                                                                                              -----REAAGPE-----PPPEAQPSPPPGCWGCWQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSVASPTSSSG-----SSSRGTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFVADSSLRTQNN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C;Keywords: G protein-coupled receptor; glycoprotein; ne F;23-48/Domain: transmembrane #status predicted <TM1>F;61-85/Domain: transmembrane #status predicted <TM2>F;81-19/Domain: transmembrane #status predicted <TM3>F;139-162/Domain: transmembrane #status predicted <TM3>F;139-162/Domain: transmembrane #status predicted <TM4>F;389-409/Domain: transmembrane #status predicted <TM5>F;389-409/Domain: transmembrane #status predicted <TM5>F;381-409/Domain: transmembrane #status predicted <TM5>F;381-442/Domain: transmembrane #status predicted <TM5-442/Domain: tr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   407 VNPVLYPLCHHSFRRAFTK-LLCPQKLK 433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Molecule type: protein
Residues: 60-122 kKUR.
Superfamily: vertebrate rhodopsin
Keywords: G protein-coupled recept
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Accession: JH0197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Accession: D37121
                                                                                                                                                                       147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     490
                                      88
                                                                                                        152
                                                                                                                                                                                                                                         212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             317
                                                                                                                                                                                                                                                                                                                                                                           237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                     ò
                                                                                                                                                                    엄
                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                      엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
```

```
60 YFLFSLACADLIIGVFSMNLYTLYTVIGYWPLGPVVCDLWLALDYVVSNASVMNLLIISF 119
                                                   DRFLSVTRAVSYRAQQGDTRRAVRKWLLVWVLAFLLYGPAILSWEYLSGGSSIPEGHCYA 190
                                                                                       289 VSAVASNMRDDEITQDENTVSTSLGHSRDDNSKQTCIKIVTKAQKGDVYTFTSTTVELVG 348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SSSR-GTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSLAVIVSIF 367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     455
                                                                                                                                                           EFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAAGPEPPEAQP
                                                                                                                                                                                                                                                                                                                 229 DPVSPSLVQGRIVKPNNNNMPGGDGGLEHNKIQNGKAPRDGVTENCVQGEEKESSNDSTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ------LHRYGVGEAAVGAEAGEA----
                                                                                                                                                                                                                                                                                                                                                                       -----GGGGSVASPTSSS----G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 368 GLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFRRAFTKLL
```

2, 2005, 20:41:15

н

```
TISSUE=Thalamus;
MEDLINE=21181559; PubMed=11284713; DOI=10.1042/0264-6021:3550279;
GOGE F., Guenin S.-P., Audinot V., Renouard-Try A., Beauverger P.,
Macia C., Ouvry C., Nagel N., Rique H., Boutin J.A., Galizzi J.-P.;
"Genomic organization and characterization of splice variants of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A. (ISOFORM 2), AND CHARACTERIZATION.
MEDILINE=20568725; PubMedel1118334; DOI=16.1006/bbrc.2000.4008;
NAKABULA T., Itadani H., Hidaka Y., Ohta M., Tanaka K.;
"Molecular Cloning and characterization of a new human histamine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A. (ISOFORM 1), AND VARIANT SHY-DRAGER SYNDROME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE-21953383; PubMed-11956964; DOI=10.1007/8007020200036; Middemann P., Boenisch H., Oerters F., Bruess M.; "Structure of the human histamine H3 receptor gene (HRH3) and identification of naturally occurring variations."; Jenural Transm. 109:443-453(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. (ISOFORM 3).
Ullmer C., Zirwes E., Lubbert H.;
"Cloning and functional expression of the human histamine H3S
"receptor.",
Submitted (MAR-2001) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A. (ISOFORMS 1; 3; 4; 5; 6 AND 7).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 receptor, HH4R.";
Biochem. Biophys. Res. Commun. 279:615-620(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                human histamine H3 receptor."
Biochem. J. 355:279-288(2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE=Thalamus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE=Blood;
                                                                                                                                                                                                                                                                                                                                                            HH3R HUMAN
                                                                                                                                                                                                                                                                                                                                          HUMAN
                                                                                                                                                                                                                                                                                                                         RESULT 1
                                                                                                                                                                                                                                                                                                                                            HH3R_1
                                                                                                                                                                                                                                                                                                                                                            homo sapien
mus musculu
brachydanio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 homo sapien
homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     homo sapien
homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rattus norv
sus scrofa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             macaca mula
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29y5n1 homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        mus musculu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cavia porce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 homo sapien
sus scrofa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 macaca mula
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 mus musculu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rattus norv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cavia porce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                canis famil
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              rattus norv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cavia porce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     mus musculu
                                                                                                                         (without alignments)
2745.485 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        canis famil
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gallus gall
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                               1 MERAPPOGPLNASGALAGDA.....LLCPQKLKIQPHSSLEHCWK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0865e1
958406
099x38
099x38
099x39
08wx29
08wx29
08x116
08x116
08x116
08x116
08x116
08x116
08x116
08x116
08x117
08x117
09x127
00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P04761
Q8vh28
P12657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q865e2
Q8vh24
P41984
Q9ptf6
                                                                                                      2, 2005, 14:45:59 ; Search time 83 Seconds
                                                                                                                                                                                                                                                                                                                                            1612378
version 5.1.6
- 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                        Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                      1612378 segs, 512079187 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HH3R_HUMAN
Q865E1
HH3R_MOUSE
HH3R_RAT
HH3R_CAVPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q8WYOO
Q8K116
Q6K33
Q6K33
Q8NCH4
Q8NI50
Q86SE3
Q965E3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0912Y2
09912Y1
09912Y1
0912Y3
ACM1_MACMU
ACM1_RAT
096RHI
ACM1_HUMAN
ACM1_PIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACM1 MOUSE
Q865E2
Q8VH24
ACM3 BOVIN
                                                                                                                                                                                                                                                                                                                                                                                                                                Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                      - protein search, using sw model
                                                                                                                                                                                                                                                                   Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6ZXM8C
GenCore (c) 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       UniProt_03:*
1: uniprot_sprot:*
2: uniprot_trembl:*
                                                                                                                                                                                                                                                                                                                                                                             seq length: 0
seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                         US-10-727-021-7
2361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3390
3391
3391
3391
3391
4460
4460
4460
4460
                Copyright
                                                                                                                                                                                                                                                  BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   580
570
564
553.5
548.5
                                                                                                                                                                                                                                                  Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1919
1919
1521
1521
1223
1186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       694.5
688.5
592.5
592.5
591.5
591.5
587.5
580
                                                                                                                                                                                              Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               860
                                                                     OM protein
                                                                                                                                                                                                                                                                                                                                                                             Minimum DB
Maximum DB
                                                                                                                                                                                                                 Sequence:
                                                                                                                                                                                                                                                                                                        Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Database
                                                                                                        Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Result
```

```
fugu rubrip
brachydanio
                                                                                                                                                    pongo pygma
qorilla gor
                                                                                                                                                                                                               nomo sapien
                                                                                         homo sapien
pan troglod
                                                                                                                                                                                                                                                                cavia porce
                                                                                                                                                                                                                                                                                                                                                             mus musculu
                                                                                                                                                                                                                                                                                                                                                                                         macaca mula
                                                                                                                                                                                                                                           rattus norv
                                                                                                                                                                                                                                                                                                      homo sapien
                                                                                                                                                                                                                                                                                                                              sapien
                                                                                                                                                                                                                                                                                                                                 homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Craniata, Vertebrata, Buteleostomi,
Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=99278519; PubMed=10347254;
Lovenberg T.W., Roland B.L., Wilson S.J., Jiang X., Pyati J.,
Huvar A., Jackson M.R., Brlander M.G.;
"Cloning and functional expression of the human histamine H3
receptor.";
P11483
Q661i8
Q7t286
                                                                                                               09n2a4
09n2a2
09n2a3
096rg9
P08483
                                                                                                                                                                                                                                                                                               096rg8
P08173
P32211
                                                                                                                                                                                                                                                                                                                                                                                      P56490
                                                                                         P20309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q9YSN1; Q9GZX2; Q9H4K8; 28-FEB-2003 (Rel. 41, Created) 28-FEB-2003 (Rel. 41, Last sequence update) 25-CCT-2004 (Rel. 45, Last annotation update) Histanine H3 receptor (HH3R) (G protein-coupled receptor 97) Home-HRH3; Synonyms-GPCR97; Home sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 445 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ALIGNMENTS
                                                                                   ACM3 HUMAN
ACM3 PANTR
ACM3 PONPY
ACM3 GORGO
Q96RG9
                                                                                                                                                                                                                                                                                                                           ACM4 HUMAN
ACM4 MOUSE
                                                                                                                                                                                                                                                                                                                                                                                         ACMS MACMU
ACM3_PIG
Q66LI8
                                                                                                                                                                                                                                     ACM3 RAT
Q8VHZS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mol. Pharmacol. 55:1101-1107(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                      Q96RG8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A. (ISOFORM 1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bukaryota; Metazoa; Chordata;
Mammalia; Butheria; Primates;
246. 24 6. 24 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 34 6. 3
```

```
SEQUENCE FROM N.A. (ISOFORM 1).

MEDLINE=21638749; PubMed=11780052; DOI=10.1038/414865a;

A Deloukas P., Matchaws L.H., Ashurst J.L., Butron J., Gilbert J.G.R.,

Deloukas P., Matchaws L.H., Ashurst J.L., Babbage A.K., Bagguley C.L.,

A Jones M., Stavrides G., Almeida J.P., Babbage A.K., Bagguley C.L.,

Basley O.P., Bird C.P., Blakey S.E., Bridgeman A.M., Brown A.J.,

Buck D., Burrill W.D., Butler A.P., Carder C., Carter N.P.,

Clegg S., Cobley V.E., Collier R.E., Connor R.E., Corby N.R.,

Coulson A., Coville G.J., Deadman R., Dham P.D.,

Blington A.G., Frankland J.A., Fraser A., French L., Garner P.,

A mamond S., Harley J.L., Heath P.D., Ho S., Holden P.J.,

Huckle E., Hunt A.R., Hunt S.E., Jekosch K., Johnson D.,

Kay M.P., Kimberley A.M., King A., Knights A., Laird G.K., Lawlor S.,

Lehvaeslaino M.H., Leversha M.A., Lloyd C., Lloyd D.M., Lovell J.D.,

Marsh V.L., Martin S.L., McConnachie L.J., McLay K., McCharray A.A.,

Milne S.A., Mistry D., Moore M.J.F., Mullikin J.C., Nickerson T.,

Oliver K., Parker A., Patel R., Pearce T.A.V., Peck A.I.,

Skuce C.D., Smith M.L., Scott C.E., Sehra H.K., Shownkeen R., Sims S.,

Skuce C.D., Smith M.L., Scott C.E., Sehra H.K., Shownkeen R., Sims S.,

Skuce C.D., Smith M.L., Scott C.E., Sehra H.K., Shownkeen R., Sims S.,

Skuce C.D., Smith M.L., Taylor R., Tee D., Thomas D.W., Thorpe A.,

Nhitchead S.L., Whittaker P., Willey D.L., Thilliams L., Williams S.A.,

Whitchead S.L., Whittaker P., Willey D.L., Williams L., Williams S.A.,

Whitchead S.L., Whittaker P., Willey D.L., Williams S.A.,

Whitchead S.L., Whittaker P., Willey D.L., Williams S.A.,

Whitchead S.L., Whittaker P., Willey D.L., Williams S.A.,

Whitchead S.L., Whiteher P., Willey D.L., Williams S.A.,

Whitchead S.L., Whitsh H. Willey D.L., Williams S.A.,

Whitchead S.L., Whiteher P., Willey D.L., Williams M.,

Whitchead S.L., Whitsh W., Hoders M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rogers J.; "The DNA sequence and comparative analysis of human chromosome 20.";
```

Nature 414.865-871(2001).

-1- FUNCTION: The H3 subclass of histamine receptors could mediate the histamine signals in CNS and peripheral nervous system. Signals through the inhibition of adenylate cyclase and displays high constitutive activity (spontaneous activity in the absence of agonist). Agonist stimulation of isoform 3 niether modified adenylate cyclase activity nor induced intracellular calcium

mobilization. SUBCELLULAR LOCATION: Integral membrane protein. ALTERNATIVE PRODUCTS: -

Event=Alternative splicing; Named isoforms=7; Comment=Additional isoforms seem to exist; Name=1

IsoId=Q9Y5N1-1; Sequence=Displayed; Name=2;

IsoId=Q9Y5N1-2; Sequence=VSP_001886; Name=3; Synonyms=H3S; IsoId=Q9Y5N1-3; Sequence=VSP_001885; IsoId=09Y5N1-4; Sequence=VSP_001881; Name=4;

IsoId=Q9Y5N1-5; Sequence=VSP_001882;

IsoId=Q9Y5N1-6; Sequence=VSP_001883;

TISSUE SPECIFICITY: Expressed predominantly in the CNS, with the greatestest expression in the thalamus and caudate nucleus. The various isoforms are mainly coexpressed in brain, but their relative expression level varies in a region-specific manner. Isoforms 3 and 7 are highly expressed in the thalamus, caudate nucleus and cerebellum while isoforms 5 and 6 show a poor expression. Isoforms 5 and 6 show a high expression in the amygdala, substantia nigra, cerebral cortex and hypothalamus. Isoform 7 is not found in hypothalamus or substantia nigra.

-!- DISEASE: Defects in HRH3 are a cause of Shy-Drager syndrome [MIM:146500]. This syndrome is characterized by orthostatic hypothanion, bladder and bowel incontinence, anhidrosis, iris atrophy, amystrophy, ataxia, rigidity and tremor.

-!- MISCELLANEOUS: Does not bind to cimetidine and tripolidine. Shows modest affinity for thioperamide, imetit, N-alpha-methylhistamine and R(-)-alpha-methylhistamine. Isoforms 1 and 3 bind it with high affinity.

-!- SIMILARITY: Belongs to the G-protein coupled receptor 1 family.

This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch). GO; GO:0005887; C:integral to plasma membrane; TAS.
GO; GO:0004969; F:histanine receptor activity; TAS.
GO; GO:0007187; P:G-protein signaling, coupled to cyclic nucl. . ; TAS.
GO; GO:0007269; P:neurocransmitter secretion; TAS. InterPro; IPR001276; GPCR Rhodpsn.
InterPro; IPR001296; GPCR Rhodpsn.
InterPro; IPR0013980; H3_receptor.
PRINTS; PR00127; GPCRRHODOPSN.
PRINTS; PR01471; HISTAMINEH3R.
PROSITE; PS00127; G_PR0TEIN_RECEP_F1_1; 1.
PROSITE; PS02027; G_PR0TEIN_RECEP_F1_2; 1.
Alternative splicing; Disease mutation; G-protein coupled receptor; N-linked (GlcNAc. . .) (Potential). Missing (in isoform 4). /FIIda-VSP_001881. Missing (in isoform 5). /FTId=VSP_001885. K -> KWRKKTCL (in isoform 2). /FTId=VSP_001886. A -> V (in Shy-Drager syndrome). /FTId=VSR_012235. F -> D (in Ref. 1 and 5). **, 2ACF7440PBE95SBC CRC64; Query Match 99.8%; Score 2357; DB 1; Length 445; Best Local Similarity 99.8%; Pred. No. 2.9e-126; Matches 444; Conservative 1; Mismatches 0; Indels Conservative 1 Extracellular (Potential). Extracellular (Potential) Extracellular (Potential) Extracellular (Potential) Cytoplasmic (Potential). Cytoplasmic (Potential). Cytoplasmic (Potential). Cytoplasmic (Potential) Missing (In isoform 6).
/Frid=VSP 001883.
Missing (In isoform 7). /FTId=VSP 001884. Missing (In isoform 3) Potential. Potential Potential Potential Potential Potential Potential Poly-Gly EMBL; AF140538; AAD38151.1; -.
EMBL; AB045569; BAB20090.1; -.
EMBL; AB019000; BAB17030.1; -.
EMBL; AJ296652; CAC51025.1; -.
EMBL; AJ278250; CAC39434.1; -.
EMBL; AL078633; CAC04014.1; -.
EMRL; AF363791; AAK50040.1; -. 19 19 E 445 AA; 48671 MW; Transmembrane. HGNC:5184; HRH3. 39 60 70 91 108 129 177 196 342 445 280 217 3359 3395 416 23 256 298 11 11 98 315 263 353 445 280 234 250 292 197 227 274 MIM; 604525; -. Glycoprotein; MIM; 146500; DOMAIN TRANSMEM DOMAIN TRANSMEM DOMAIN TRANSMEM TRANSMEM DOMAIN DOMAIN CONFLICT DOMAIN TRANSMEM **TRANSMEM** /ARSPLIC /ARSPLIC /ARSPLIC VARSPLIC RANSMEM /ARSPLIC ARSPLIC VARIANT DOMAIN Genew; DOMAIN DOMAIN DOMAIN DOMAIN

1 MERAPPOGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV

à

ö

ö

m

```
1 MERAPPDGPLNASGALAGEAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; AY044153; AAK72406.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MGD; MGI:2139279; Hrh3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN=CD-1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HH3R MOUSE
P58406;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Name=Hrh3;
                                                                                                                                                                               181
                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                 181
                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                               361
                             61
                                                                                      121
                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HH3R_MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 3
                                                         셤
                                                                                                              셤
                                                                                                                                                                            g
                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                          셤
                           8
                                                                                õ
                                                                                                                                                Š
                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                         120
                                                                                      180
                                                                                                                    180
                                                                                                                                                 240
                                                                                                                                                                               240
                                                                                                                                                                                                            300
                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                           420
 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Yao B. B., Sharma R., Cassar S., Esbenshade T.A., Hancock A.A.;

L. Submitted (FEB-2003) to the EMBL/GenBank/DDBJ databases.
-1- SUBCELLULAR LOCATION: Integral membrane protein (By similarity).
-1- SIMILARITY: Belongs to family 1 of G-protein coupled receptors.

R. EMBL, AV213164; AA063757.1; -.
R. GO; GO:0016021; C:integral to membrane; IEA.
R. GO; GO:0004869; F:histamine receptor activity; IEA.
R. GO; GO:000186; F:receptor activity; IEA.
R. GO; GO:000186; F:receptor activity; IEA.
R. GO; GO:000186; F:receptor activity; IEA.
R. InterPro; IPR000276; GPCR_Rhodpsn.
R. InterPro; IPR000376; GPCR_Rhodpsn.
R. Pfam; PF00001; 7tm 1; 1.
R. Pfam; PF00001; 7tm 1; 1.
R. PRINTS; PR00237; GPCR_NAMEDOPSN.
                                           ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                       121 SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                AVIVSIFGLCWAPYTLLMITRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                 SSIPECHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                  SSIPEGHCYAEFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                            GPEPPPEAQPSPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                            GPEPPPEAQPSPPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                                      ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                                                                                                       ASPTSSSGSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                                                                                                                                               AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
 MERAPPDGPLNASGALAGEAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                               ADSSLRTQNNFFLLINLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                      SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Macaca mulatta (Rhesus macaque).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Cercopithecidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 445;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROSITE; PS00237; G_PROTEIN RECEP_F1_1; 1.
PROSITE; PS50262; G_PROTEIN RECEP_F1_2; 1.
G_PROTEIN coupled receptor; Receptor; Transmembrane.
G_PROTEING 445 AA; 48591 MW; E79440A4E099CARC ERG64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            98.4%; Score 2323; DB 2; 98.2%; Pred. No. 2.4e-124; ive 2; Mismatches 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 445
                                                                                                                                                                                                                                                                                                                                                                                         RAFTKLLCPQKLKIQPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                     RAFTKLLCPOKLKIOPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRINTS; PR01471; HISTAMINEH3R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-JUN-2003 (TrEMBLrel. 24, 01-JUN-2003 (TrEMBLrel. 24, 01-MAR-2004 (TrEMBLrel. 26, Histamine receptor H3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches 437; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cercopithecinae; Macaca
NCBI_TaxID=9544;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Name=HRH3;
                                                                                                                                                                                                                                                                                                                                                           361
                                                                                      121
                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                 181
                                                                                                                                                                               181
                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q865E1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               요
                                                         셤
                                                                                                            q
                                                                                                                                                ઠે
                                                                                                                                                                         원
                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                           유
                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                         ò
                           Š
                                                                                ઠે
```

9

MERAPPOGPLINASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@ib.ch).
                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG 180
                                                                                                                                                                                                                    SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA 240
                                                                                                                                                                                                                                                                                                    GPEPPPEAQPSPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV 300
9
                                                                ADSSIRTQNNFFLLMLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                        SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Coge F., Rique H., Levacher B., Leopold O., Guenin S.-P., Boutin J.A.,
                                                                                                                                                                                                                                                                                                                               ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKWVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                                                                                                                                                                                                         ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Cloning of mouse histamine H3 receptor.";
Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
-!- PUNCTION: The H3 subclass of histamine receptors could mediate thistamine signals in CNS and peripheral nervous system. Signals through the inhibition of adenylate cyclase and displays high constitutive activity (spontaneous activity in the absence of agonist) (By similarity).
-!- SUBCELULIAR LOCATION: Integral membrane protein.
-!- SIMILARITY: Belongs to the G-protein coupled receptor 1 family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
25-OCT-2004 (Rel. 45, Last annotation update)
Histamine H3 receptor (HH3R).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Z
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RAFTKLLCPOKLKIOPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421 RAFTKLLCPOKLKIOPHSSLEOCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR003276; GPCR Rhodpsn.
InterPro; IPR003980; H3_receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pfam; PF00001; 7tm 1; 1.
PRINTS; PR00237; GPCRRHODOPSN.
```

```
InterPro; IPR003980; H3
Pfam; PF00001; 7tm 1; 1
                                                                                                 TISSUE=Striatum;
                                                                                                                                                                                                                                                                                 receptor.";
120
                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                            239
                                                                                                                                                                                                                                                                                                                                                                                                                                 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                     299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 419
                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                       ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCAS
                                                                                                                                                                                                                                                                                                                                                                                                    GPEPPDAQPSPPPAPPSCWGCWPKGHGEAMPLHRYGVGEAGPGVETGEAGLGGGSGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360 LAIIVSIFGLCWAPYTLIMIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHYSF
                                                                                                                                                                                                                                                                                 MERAPPDGLIMNASGALAGEAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                             ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                  SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                             SVFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKWALVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                         SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                 GPEPPPEAQPSPPP-PPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300 AASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSITQRFRLSRDKKVAKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LAVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSF
                                                                                                                                                                                                                                                                      1 MERAPPDGPLNASGALAGDAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Rattus.
NCBI_TaxID=10116;
                                                                                                                                                                                                                                                  ..
                                                                                                                                                                                                  . .) (Potential)
                                                                                                                                                                                                                              Score 2220; DB 1; Length 445; Pred. No. 1.7e-118;
    PROSITE; PS00237; G PROTEIN RECEP F1 1; 1.
PROSITE; PS50262; G PROTEIN RECEP F1_2; 1.
G-protein coupled receptor; Glycoprotein; Transmembrane.
DOMAIN 40 60 Extracellular (Potential).
TRANSMEM 61 70 Cytoplasmic (Potential).
TRANSMEM 71 91 Potential.
DOMAIN 71 91 Potential.
TRANSMEM 109 129 Potential.
                                                                                                                                                                                                                                                  17; Indels
                                                                                                          Potential.
Extracellular (Potential).
Potential.
                                                                                                                                                                                                            B8D406E29E1F3C5F CRC64;
                                                                                                                                                         Extracellular (Potential)
                                                                                              Cytoplasmic (Potential).
                                                                                                                                     Cytoplasmic (Potential). Potential.
                                                                                                                                                                             Cytoplasmic (Potential)
                                                                                                                                                                                                 N-linked (GlcNAc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               090YNB; 090YN6; 090YN7; 090XN9; 28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2004 (Rel. 45, Last annotation update)
Histamine H3 receptor (HH3R).
                                                                                                                                                                                                                                        Pred. No. 1.7e
8; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          445 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RRAFTKLLCPQKLKIQPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Poly-Ala.
                                                                                                                                                                      Potential
                                                                                                                                                                                                            48541 MW;
                                                                                                                                                                                                                               94.0%;
                                                                                                                                                                                                                                       93.98;
                                                                                                                                                                                                                                                 Matches 419; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rattus norvegicus (Rat).
                                                                                                                                                                                      20
11
445 AA;
                                                                                                                                                                                                                                        Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 4
H13R RAT
ID H13R RAT
AC 090XNB; 09
DT 28-FEB-200
DT 28-FEB-200
DT 25-OCT-200
DT 25-OCT-200
SE RETUB NOIS
OS RATUB NOIS
OC MAMMAILE,
OX NCBI_TAXII
                                                                                               DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                       DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                             TRANSMEM
                                                                                                                                                                     TRANSMEM
                                                                                                                                                                                                  CARBOHYD
                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                DOMAIN
셤
                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                          d
                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                               요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isp-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=11016732; PubMed=11130725; DOI=10.1038/35048583;
Morisset S., Rouleau A., Ligneau X., Gbahou F., Tardivel-Lacombe J.,
Stark H., Schunack W., Ganellin C.R., Schwartz J.-C., Arrang J.-M.;
"High constitutive activity of native H3 receptors regulates histamine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Isola-290XN8-4; Sequence=VSP 001888, VSP 001889;
TISSUE SPECIFICITY: Expressed abundantly in brain, most notably
throughout the thalamus, the ventromedial hypothalamus and the
caudate nucleus. Isoform 1 is largely predominant in all tissues.
MISCELLANEOUS: Proxyfan acts as a potent neutral antagonist while
thioperamide, ciproxifan and FUB465 act as potent inverse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mol. Pharmacol. 55:1101-1107(1999).
-!- FUNCTION: The H3 subclass of histamine receptors could mediate thistamine signals in CNS and peripheral nervous system. Signals through the inhibition of adenylate cyclase and displays high constitutive activity (spontaneous activity in the absence of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIMILARITY: Belongs to the G-protein coupled receptor 1 family.
                                                                     MEDLINE=20330707; PubMed=10869375;
Lovenberg T.W., Pyati J., Chang H., Wilson S.J., Erlander M.G.;
"Cloning of rat histamine H3 receptor reveals distinct species
pharmacological profiles.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=99278519; PubMed=10347254; Lovenberg T.W., Roland B.L., Wilson S.J., Jiang X., Pyati J., Lovenberg T.V., Jackson M.R., Ellander M.G.; "Cloning and functional expression of the human histamine H3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A. (ISOFORMS 1; 2; 3 AND 4).
Itadani H., Takimura T., Nakamura T., Ohta M.,
"Cloning of a novel G protein-coupled receptor.";
Submitted (UMN-1998) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     agonist).
SUBCELULAR LOCATION: Integral membrane protein.
ALTERNATIVE PRODUCTS:
Event-Alternative splicing; Named isoforms=4;
Comment=Additional isoforms seem to exist;
                                                                                                                                                                                                                                                   Pharmacol. Exp. Ther. 293:771-778(2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IsoId=090YN8-2; Sequence=VSP_001887;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Name=3;
IsoId=Q9QYN8-3; Sequence=VSP_001888;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IsoId=Q9QYN8-1; Sequence=Displayed;
                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A. (ISOFORMS 1 AND 2)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR000276; GPCR Rhodpsn.
InterPro; IPR003980; H3_receptor.
FROM N.A. (ISOFORM 1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; AF237919; AAF82086.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; AY009370; AAK02069.1; -. EMBL; AB015646; BAA88765.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; AB015646; BAA88766.1; -.
EMBL; AB015646; BAA88767.1; -.
EMBL; AB015646; BAA88768.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Name=1; Synonyms=H3L;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        neurons in brain.";
Nature 408:860-864(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Name=2; Synonyms=H3S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE SPECIFICITY
```

```
Name=HRH3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   'RANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKS 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300 AASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKWVSQSITQRFRLSRDKKVAKS 359
                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                       VQPHGSLEQCWK -> CVERLGKLEASLLLPLWMFSGRWRR
RKHVCELDVPWMFNQERQNCRGARGWIGRCGLPRPPPSVLQ
                                                                                                                                                                                                                                                                                          WYETSFWILLWANSAVNPVLYPICHYSFRRAFTKLLCPOKLK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADSSLRIQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GPEPPPDAQPSPPPAPPSCWGCWPKGHGEAMPLHRYGVGEAGPGVEAGEAALGGGSGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFPNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGGRE-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GPEPPPEAQPSPPP-PPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGS
                                                                                                                                                                                                                                                                                                                                                                                                                                     SVFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKWALVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                                                          1 MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LAVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSF
                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                            LPAEPROLLLPAPPPGLGRWPCPACPVCTIRIWGWVVMG
                                                                                                                                                                                                                                                                       Missing (In isoform 3 and isoform 4)
                                                                                                                                                                                                                                                                                                                                                                                                      5,
                    PROSITE; PS00237; G PROTEIN RECEP F1 1; 1.
PROSITE; PS50262; G PROTEIN RECEP F1 2; 1.
Alternative splicing; G-protein coupled receptor; Glycoprotein;
                                                                                                                                                                                                                                      N-linked (GlcNAc. .) (Potential)
Missing (in isoform 2).
/FTId=VSP_001887.
                                                                                                                                                                                                                                                                                                                                                                               93.7%; Score 2213; DB 1; Length 445; 93.5%; Pred. No. 4.3e-118;
                                                                                                                                                                                                                                                                                                                                                                                                      18; Indels
                                                                                                                                                                                                                                                                                                                                      (in isoform 4).
/FTId=VSP 001889.
63DFEFC21758FE5B CRC64;
                                                                Extracellular (Potential)
                                                                                                           Extracellular (Potential)
                                                                                                                                                    Extracellular (Potential)
                                                                                                                                                                                              Extracellular (Potential)
                                                                                                                              Cytoplasmic (Potential). Potential.
                                                                                                                                                                      Cytoplasmic (Potential). Potential.
                                                                                    Cytoplasmic (Potential). Potential.
                                                                                                                                                                                                         Potential.
Cytoplasmic (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                     9; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RRAFTKLLCPQKLKIQPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FTIG=VSP
                                                                                                                                                              Potential
                                                                                                                                                                                                                              Poly-Ala.
                                                                                                                    Potential
GPCRRHODOPSN.
HISTAMINEH3R.
                                                                                                                                                                                                                                                                                                                                                           48588 MW;
                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity 93.5
Matches 417; Conservative
                                                               39
60
70
70
91
108
1129
1156
2117
3359
3380
23396
2330
2330
2330
2330
2330
                                                                                                                                                                                                                                                                                             445
                                                                                                                                                                                                                                                                       321
                                                                                                                                                                                                                                                                                                                                                            445 AA;
                                                                                                                                                                                                                                                                                                                                                                                         Similarity
            PR01471;
                                                                                    61
71
92
1109
1130
1157
1178
1197
218
3260
3361
                                                                                                                                                                                                                 418
20
11
274
                                                                                                                                                                                                                                                                                             393
                                                    Transmembrane.
DOMAIN
TRANSMEM 4
DOMAIN 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                          DOMAIN
TRANSMEM
                                                                                                                                                             TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                         TRANSMEM
                                                                                                                                                                                                         FRANSMEM
                                                                                                                                                                                                                                        CARBOHYD
                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                    FRANSMEM
                                                                                                                                                                                                                                                                       VARSPLIC
                                                                                                                                                                                                                                                                                             VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                  VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                            Local
                                                                                                                               DOMAIN
                                                                                                                                                     DOMAIN
                                                                                                                                                                                                DOMAIN
                                                                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                              DOMAIN
 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ሯ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
```

RESULT

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is nor removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                Name=Long; Synonyms=H31;
Isofd=Q9J135-1; Sequence=Displayed;
Name=Short; Synonyms=H35;
Isoid=Q9J135-2; Sequence=VSP 001880;
TISSUE SPECIFICITY: Expressed widely and abundantly throughout the
brain. Highly expressed in discrete neuronal populations such as
pyramidal cells in cerebral cortex or cerebellar Purkinje cells.
SIMILARITY: Belongs to the G-protein coupled receptor 1 family.
                                                                                                                                                                                                                                                                                 -!- FUNCTION: The H3 subclass of histamine receptors could mediate the
                                                                                                                                                                                                                                                                                                 histamine signals in CNS and peripheral nervous system. Signals through the inhibition of adenylate cyclase and displays high constitutive activity (spontaneous activity in the absence of
                                                                                              Cavia porcellus (Guinea pig).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
                                                                                                                                                                                                            Tardivel-Lacombe J., Rouleau A., Heron A., Morisset S., Pillot C. Cochois V., Schwartz J.-C., Arrang J.-M.; "Cloning and cerebral expression of the guinea pig histamine H3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Potential.
Extracellular (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Potential.
Extracellular (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Extracellular (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Extracellular (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Potential.
Cytoplasmic (Potential).
Poly-Ala.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cytoplasmic (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cytoplasmic (Potential)
                                                                                                                                                                                                                                                                                                                                                        SÜBCELLULAR LOCATION: Integral membrane protein. ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                                                                                                                                                                  Event=Alternative splicing; Named isoforms=2;
       09J135; 090J136; 28-FEB-2003 (Rel. 41, Created) 28-FEB-2003 (Rel. 41, Last sequence update) 25-OCT-2004 (Rel. 45, Last annotation update) Histamine H3 receptor (HH3R).
                                                                                                                                                                      SEQUENCE FROM N.A. (ISOFORMS LONG AND SHORT)
445 AA.
                                                                                                                                                                                                                                                       receptor: evidence for two isoforms.";
NeuroReport 11:755-759(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=20218440; PubMed=10757514;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; AF267537; AAF78947.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    40
61
71
109
1130
1157
1178
1197
218
3359
3359
445
24
                                                                                                                                    NCBI_TaxID=10141;
                                                                                                                                                                                                                                                                                                                                              agonist).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
```

```
365; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE=Hippocampus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Weiner D.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                 Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q8WXZ9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q8WXZ9
                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OBWXZ9
            S K B B B
                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                           119
                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                          179
                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                           239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               418
                                                                                                                                                                                             59
                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .; IEA.
                                                                                                                                                                                                                                                                                                                                                                               SLAIIVSIFGLCWAPYILLMIIRAACHGHCVPDYWYETSFWLLWANSAVWPVLYPLCHYS
                                                                                                                                                                                                                  VADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCT
                                                                                                                                                                                                                                                                                                         61 VADSSLRTQNNFFLLNLAISDFLVGVFCIPLYVPYVLJGRWTFGRGLCKLWLVVDYLLCT
                                                                                                                                                                                                                                                                                                                                                          SSAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSG
                                                                                                                                                                                                                                                                                                                                                                                                                                         GSSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GSSIPECHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGGARE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SVASPISSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SLAVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHS
                                                                                                                                                                                           1 MERAPPDGPLNASGALAGD-AAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGPEPPPEAQPSPP-PPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGG
                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Neuropharmacology 0:0-02020].

-1- SUBCELLULAR LOCATION: Integral membrane protein (By similarity) 0:1-1 SUBCELLULAR LOCATION: Integral membrane protein coupled receptors. Integral pal. AL71912.1: -
GO: GO: 0016021; C: integral to membrane; IEA.
GO: GO: 0016021; E: receptor activity; IEA.
GO: GO: 0001584; F: receptor activity; IEA.
GO: GO: 0001584; F: rhodopsin-like receptor activity; IEA.
GO: GO: 0001587; C: receptor activity; IEA.
GO: GO: 0001587; F: receptor activity; IEA.
First Protein coupled receptor protein signalin. ..; PRINTS; PRO001; 7tm 1; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUB=Hippocampus;
Wellendorph P.; Goodman M.W., Burstein E.S., Nash N.R., Brann M.R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
N-linked (GlcNAc. .) (Potential).
Missing (in isoform Short).
/FIId=VSP_001880.
                                                                                                                                                      4.
                                                                                                            Length 445;
                                                                                                          92.3%; Score 2179; DB 1; Length 4 92.8%; Pred. No. 3.7e-116; ive 10; Mismatches 18; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Weiner D.M.; "Molecular Cloning and Characterization of Functionally
                                                                 48734 MW; BAE206A3887189A0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-MAR-2002 (TrEMBLrel. 20, Created)
01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last sequence update)
Histeanine H3 receptor isoform 2.
                                                                                                        DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Isoforms of the Human Histamine H3 Receptor.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FRRAFIKLLCPOKLKIOPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FRRAFTKLLCPQKLKVQPHSSLEHCWK 445
                                                                                                                             Best Local Similarity 92.8%
Matches 415; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens (Human)
                                                                    445 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FROM N.A.
        11
276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9606;
        CARBOHYD
VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        419
                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                    SEQUENCE
                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 6
28 WY 01
10 D8 WY
AC 08 WY
DT 01 - M
DT 02 - 1 - M
DT 03 - M
DT 04 - M
DT 05 
                                                                                                                                                                                                                             ద
                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                           ઠ
                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
```

```
ä
                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GPEPPPEAQPSPPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV 300
                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 MERAPPOGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                     61 ADSSLRTQNNFFFLINLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                     181 SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFPNLSIYLNIQRRTRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301 ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                             1 MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241 GPEPPPEAQPSPPPPPGCWGCWQKGHGEAMPLH-----------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Brann M.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens (Human).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                    80;
                                                                                                                               Length 365;
                                                                                                                                                                    0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Wellendorph P., Goodman M.W., Burstein E.S., Nash N.R.,
PRINTS; PRO1471; HISTAMINEH3R.
PROSITE; PS00237; G PROTEIN RECEP F1 1; 1.
PROSITE; PS50262; G-PROTEIN_RECEP_F1_2; 1.
G-protein coupled receptor; Receptor; Transmembrane.
SEQUENCE 365 AA; 40609 MW; D78B32042464CB35 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-WAR-2002 (TrEMBLrel. 20, Created)
01-WAR-2002 (TrEMBLrel. 20, Last sequence update)
01-WAR-2004 (TrEMBLrel. 26, Last annotation update)
Histamne H3 receptor isoform 4.
                                                                                                                           81.3%; Score 1919; DB 2;
82.0%; Pred. No. 1.8e-101;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 373 AA
```

```
----- 213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
TISSUE=Hippocampus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Name=HRH3;
                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q8NI49
Q8NI49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q8N149
  d
                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                     원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE-Hippocampus;

TISSUE-Hippocampus;

Weiner D.M.;

Wolecular Cloning and Characterization of Functionally Distinct

The Molecular Cloning and Characterization (By similarity).

The Substance Locations Integral of G-protein coupled receptors.

BRIL; AP321912; AAL71913.1; --

DR GO; GO:0006021; C:integral to membrane; IEA.

BRIL; AP321912; ALXISTAMINE receptor activity; IEA.

GO:00004812; F:receptor activity; IEA.

GO:00001884; F:rhodopsin-like receptor activity; IEA.

GO:00001885; P:receptor activity; IEA.

GO: GO:0001886; P:receptor activity; IEA.
                                                                                                                                                                                                  120
                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                      273
                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                          280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNDVLYPLCHHSFR 340
                                                                                                                                                                                                                                                                                                                                                            GPEPPPEAQPSPPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV 300
                                                                                                                                                                      9
                                                                                                                                              9
                                                                                                                                                           1 MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                              61 ADSSLRIQNNFFILINIAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                   SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                      SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                  ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                    SAFNIVLISYDRFLSVTRAVSYRAQOGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                        SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                                                                                                                                                                                                                                                          -----RKVAKSL
                                                                                                                                            1 MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Euteleostomi;
                                                                                                                     80;
                                                                                           Length 373;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eutele
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                  Indels
PRINTS; PR00237; GPCRRHODOPSN.
PRINTS; PR01471; HISTAMINEH3R.
PROSITE; PS00237; G PROTEIN_RECEP_F1_1; 1.
PROSITE; PS50262; G_PROTEIN_RECEP_F1_2; 1.
G-proctain coupled receptor; Receptor; Transmembrane.
SEQUENCE 373 AA; 41570 MW; FAE9DFC5C3AF4DE9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (TrEMBLrel. 20, Created)
(TrEMBLrel. 20, Last sequence update)
(TrEMBLrel. 26, Last annotation update)
                                                                                          Score 1919; DB 2;
Pred. No. 1.8e-101;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                            301 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RAFTKLLCPOKLKIOPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Histamine H3 receptor isoform 3.
                                                                                           81.3%;
82.0%;
                                                                                                       Best Local Similarity 82.0
Matches 365; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q8WY00;
01-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-MAR-2002
01-MAR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Name=HRH3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                          274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               341
                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               09WY00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8 X X X X X
                                                                                                                                                                  q
                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                 엄
                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ሯ
```

```
ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 ADSSLRIQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIORRTRLRLDGAREAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GPEPPPEAQPSPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301 ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----HSFR 276
                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MERAPPOGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIORRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361 AVIVSIFGLCWAPYTLLMIIRAACHCHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                                                                                                                                                                                                                                       0; Indels 144; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Neuropharmacology 0:0-0 (2002).

1-SIBCELULAR LOCATION: Integral membrane protein (By similarity).

1- SIBCELULAR LOCATION: Integral membrane protein (By similarity).

EMBL; AF346904; AAM43829.1; -- of family 1 of G-protein coupled receptors.

EMBL; AF346904; AAM43829.1; -- of family 1 of G-protein coupled receptors.

GO; GO:0016021; C:integral to membrane; IEA.

GO; GO:0004969; F:histamine receptor activity; IEA.

GO; GO:0004882; F:receptor activity; IEA.

GO; GO:0001584; F:rhodopsin-like receptor activity; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Brann M.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            nomo sapisens (niman).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Weiner D.M., molecular Cloning and Characterization of Functionally Distinct
                                                                                                                                                                                                                                                                                                Length 301;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Wellendorph P., Goodman M.W., Burstein E.S., Nash N.R.,
Pfam; PP00001; 7tm 1; 1.

PRINTS; PR01237; GFCRRHODOPSN.

PRONTS; PR01471; HISTAMINBH3R.

PROSITE; PS50262; G_PROTEIN_RECEP_F1_1; 1.

PROSITE; PS50262; G_PROTEIN_RECEP_F1_2; 1.

G-protein coupled receptor; Receptor; Transmembrane.

SEQUENCE 301 AA; 33280 MW; EE740A2E0AB93CC9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Histamine H3 receptor isoform 6.
                                                                                                                                                                                                                                                                                                DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GPEPPPEAQPSPPPPCWGCWQKGHGEAMPL-----
                                                                                                                                                                                                                                                                                            Query Match 64.4%; Score 1521; DB 2
Best Local Similarity 67.6%; Pred. No. 6e-79;
Matches 301; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            277 RAFTKLLCPOKLKIOPHSSLEHCWK 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (TrEMBLrel. 22, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RAFTKLLCPOKLKIOPHSSLEHCWK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
```

셤

ò

g

ò

ò

g

g

ठे

ò

g

g à g

ò

셤

ò

1D DTT DDT DTT DDT DTT DDT DTT DDT DTT DDT DTT DDT DTT
```
Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H., Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W., Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A., Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A., Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G., Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C., Krozwinski M.I., Skalaka U., Schmutz J., Myers R.M., Butterfield Y.S., Krzywinski M.I., Skalaka U., Smailus D.E., Schnerch A., Schein J.E., Jones S.J., Marra M.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 LITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGGRE-AGPEPPDAQPSPPAPPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       199 LITASTLEFFIPFLSVTFFNLSIYLNIQRRTRLRLDGAREAAGPEPPPEAQPSPPP-PPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             258 CWGCWOKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGGGSVASPTSSSGSSSRGTERP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60 CWGCWPKGHGEAMPLHRYGVGEAGPGVETGEAGLGGGSGGAAAASPTSSSGSSSRGTERP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 318 RSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSLAVIVSIFGLCWAPYTLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       378 MIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFRRAFTKLLCPQKLKIQPH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Name=si:rp71-34g2.4; Synonyms=S1:bZ34G2.4;
Brachydanio rerio (Zebrafish) (Danio rerio).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
Cyprinidae; Danio.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 247;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  13; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Tracey A.;
Submitted (OCT-2003) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                         Strausberg R.;
Submitted (MAY-2002) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NON TER 1 1 1 SEQUENCE 247 AA; 26937 MW; D0154BD9995A01B1 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              05-JUL_2004 (TrEMBLrel. 27, Created)
05-JUL_2004 (TrEMBLrel. 27, Last sequence update)
05-JUL_2004 (TrEMBLrel. 27, Last annotation update)
05-JUL_2004 (TrEMBLrel. 27, Last annotation update)
SI:bZ34G2.4 (Novel protein similar to human histamine
                                                                                                                                                                                                                                   Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        51.8%; Score 1223; DB 2; 91.5%; Pred. No. 4.2e-62; ive 6; Mismatches 13;
                                                                                                                                                                                                                                                                                                                                                            EMBL; BC02847; AN1289471; EMBL; BC02847; AN1289471; EMBL; BC02847; AN1289471; EMBL; BC0201016012; C:integral to membrane; TAS. InterPro; IPR00276; GPCR Rhodpsn. InterPro; IPR003980; H3_receptor. Pfam; PR00001; Tem 1; I.PR1NTS; PR00237; GPCRRHODPSN. PRINTS; PR01471; HISTAMINEH3R. PROSITE; PS50262; G_PROTEIN_RECEP_F1_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         473 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                      sednences.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 91.5
Matches 227; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       438 SSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240 GSLEQCWK 247
                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cyprinidae; Danie
NCBI_TaxID=7955;
                                                                                                                                                                                                                   and mouse cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (HRH3))
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q6ZM33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q62M33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 11
Q6ZM33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SAFNIVLISYDRFLSVTRAVSYRAQQQDTRRAVRYMLLVWVLAFILYGPAILSWEYLSGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GPEPPPEAQPSPPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361 AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----HSFR 276
                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                 9
      .; IEA
                                                                                                                                                                                                                                                                                                                                                 1 MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                   ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                             ADSSIRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301 ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                                                                                                                                         1 MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE 22388257; PubMed=12477932; DOI=10.1073/pnas.242603899; Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G., Klausner R.D., Collins F.S., Wagner L.D., Shemmen C.W., Schuler G.D., Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K., Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F., Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L., Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E., Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C., Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mus musculus (Mouse).
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Butheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
                                                                                                                                                                                                                                                                                 0; Indels 144;
      receptor protein signalin.
                                                                                                                                                                                                                                       Length 309;
GO; GO:0007186; P:G-protein coupled receptor protein si InterPro; IPR003090; GPCR Rhodpsn.
InterPro; IPR003090; H3_receptor.
Pfam; PF00001; 7tm_1; 1.
PRINTS; PR00237; GPCRHODOPSN.
PRINTS; PR00237; GPRATAMINEH3R.
PROSITE; PS00237; G_PROTEIN_RECEP_F1_1; 1.
PROSITE; PS00262; G_PROTEIN_RECEP_F1_2; 1.
G-protein coupled receptor; Receptor; Transmembrane.
SEQUENCE 309 AA; 34242 MW; B7496F7DID2A206B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GPEPPPEAQPSPPPPPGCWGCWQKGHGEAMPL-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                     Score 1521; DB 2;
Pred. No. 6.2e-79;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RAFTKLLCPQKLKIQPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                       64.4%;
67.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-0CT-2002 (TrEMBLrel. 22, 01-0CT-2002 (TrEMBLrel. 22, 01-0CT-2003 (TrEMBLrel. 25,
                                                                                                                                                                                                                                                                               Matches 301; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hrh3 protein (Fragment)
                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                [1]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE=Eye;
                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 277
                                                                                                                                                                                                                                       Query Match
Best Local 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q8K116
Q8K116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 10
```

317

59

ä 215

9

g

g

ઠે 셤 g

Š

셤 ò

8

ò

a

셤

ò

```
61 FFNLSIYLNIQRRTRLRLDGAREAAGPEPPPEAQPSPPPPGCWGCWQKGHGEAMPLH-- 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          156 MLLVWVLAFLLYGPAILSWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MLLVWVLAFLLYGPAILSWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 216 FFNLSIYLNIQRRTRLRLDGAREAAGPEPPEAQPSPPPPGCWGCWQKGHGEAMPLHRY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             276 GVGEAAVGAEAGEATLGGGGGGGSVASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       336 RMKMVSQSFTQRFRLSRDRKVAKSLAVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              80; Gaps
Masuho Y., Ono T., Okano K., Yoshikawa Y., Aotsuka S., Sasaki N., Hattori A., Okumura K., Iwayanaqi T., Ninomiya K.; Submirted (MAR-2002) to the EMBL/GenBank/DDBJ databases.

EMBL, AKO74730; BAC11167.1; -.

EMBL, AKO74730; BAC11167.1; -.

EMBL, ENGLOSTI Cintegral to membrane; IEA.

GO; GO:0004809; F:histamine receptor activity; IEA.

GO; GO:0001584; F:rhodopsin-like receptor activity; IEA.

GO; GO:0007186; P:G-protein coupled receptor protein signalin...

InterPro; IPR00276; GPCR Rhodpsn.

InterPro; IPR00376; GPCR Rhodpsn.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Molecular Cloning and Characterization of Functionally Distinct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     48.2%; Score 1137; DB 2; Length 210; 72.4%; Pred. No. 2.8e-57; ive 0; Mismatches 0; Indels 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                161 TSFWLLWANSAVNPVLYPLCHHSFRRAFTKLLCPQKLKIQPHSSLEHCWK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   396 TSFWLLWANSAVNPVLYPLCHHSFRRAFTKLLCPQKLKIQPHSSLEHCWK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Hippocampus;
Wellendorph P., Goodman M.W., Burstein E.S., Nash N.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                  210 AA; 24046 MW; 952F3FFD60077CAD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-OCT-2002 (TrEMBLrel. 22, Created)
01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Histamine H3 receptor isoform 5.
                                                                                                                                                                                                                                                                                                                                                                                                 PROSITE; PS50262; G_PROTEIN_RECEP_F1_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                        Pfam; PF00001; 7tm 1; 1.
PRINTS; PR00237; GPCRRHODOPSN.
PRINTS; PR01471; HISTAMINEH3R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity 72.4
Matches 210; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Name=HRH3;
                                                                                                                                                                                                                                                                                                                                                                                                                              Receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q8NI50;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q8NI50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 13
QBNI50
              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TRRAVRKMILLVWVLAFILLYGPAILSWEYLSGGSSIPEGHCYAEFFYNWYFLITASTLEFF 208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TPFLSVTFFNLSIYLNIQRRTRLRLDGAREAAGPEPPPEAQPS------PPPPPGCW 259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                260 GCWQKGHGEAM-----PLHRYGVGEAAVGAEAGEATLGGGGGGGSVASPTSSSGSSSRG 313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ---EKRMKMVSQSFTQRFRLSRDRK 355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           327 SKRRDŠTLADLPPLQVESRILAASEAQFHYVDHSAGPHRHRPDWVA-SLANRFRLSRDKK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTSSAFNIVLISYDRFLSVTRAVSYRAQQGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VAKSLAVIVSIPGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29 FSAAWTAVLAALMALLIVATVLGNALVMLAFVADSSLRTQNNFFLLNLAISDFLVGAFCI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       239 TPFISVTYFNLSIYINIRNRCAMR------EEQPTYVRLRSFKMKP----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EBQUENCE FROM N.A.
Isogai T., Ota T., Nishikawa T., Hayashi K., Otsuki T., Sugiyama T.,
Suzuki Y., Nagai K., Sugano S., Ishii S., Kawai-Hio Y., Saito K.,
Yamamoto J., Wakamatsu A., Nakamura Y., Kojima S., Nagahari K.,
     -1- SUBCELLULAR LOCATION: Integral membrane protein (By similarity) -1- SIMILARITY: Belongs to family 1 of G-protein coupled receptors. EMBL; AL928906; CAE49238.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99
                                                                                  ZFIN; ZDB-GENE-040724-204; si:rp71-3492.4.
GO; GO:0016021; C:integral to membrane; IEA.
GO; GO:00048472; F:nistamine receptor activity; IEA.
GO; GO:0001584; F:nistamine receptor activity; IEA.
GO; GO:0001584; F:rhodopsin-like receptor activity; IEA.
GO; GO:0001586; P:G-protein coupled receptor protein signalin.
InterPro; IPR002980; H3_receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 2; Length 473;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        86; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                               ceptor; Transmembrane.
032FC7C27D8C6E57 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-OCT-2002 (TrEMBLrel. 22, Created)
01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
10-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Hypothetical protein FLJ90249.
Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 50.2%; Score 1186; DB 2;
54.2%; Pred. No. 9.5e-60;
cive 51; Mismatches 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         210 AA
                                                                                                                                                                                                                                                                                                        PFAM, PF00001, 7tm 1; 1.

PRINTS; PRO023; GPRRAHODOPSN,

PRINTS; PRO1471; HISTAMINEH3R.

PROSITE; PS00237; G PROTEIN RECEP F1 1; 1.

PROSITE; PS50262; G PROTEIN RECEP F1 2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       314 TERPRSLKRGSKP-----SASSASL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ||:|||:|||| | |||| :
|HSSFKRAFSKLLCPSKTKIQPQN 468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HHSFRRAFTKLLCPQKLKIQPHS 438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches 240; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QBNCH4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q8NCH4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OBNCH4
ID OB OBNCH4
OB DT O11
OD DT
```

```
61 RFLSVTRAVSYRAQQGDTRRAVQKWVLVWVLAFLLYGPAILSWEHLSGGSSIPEGHCYAE 120
                                                                                                                                                                                                                                                                                                                      OPHINE: 090200;
16-0CT-2001 (Rel. 40, Last sequence update)
16-0CT-2004 (Rel. 45, Last sequence update)
25-0CT-2004 (Rel. 45, Last annotation update)
Histamine H4 receptor (HH4R) (GPRv53) (G protein-coupled receptor 105)
(GPCR105) (SP9144) (AXOR35).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Cloning, expression, and pharmacological characterization of a novel human histamine receptor."; Mol. Pharmacol. 59:434-441(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Oda T., Morikawa N., Saito Y., Masuho Y., Matsumoto S.-I.; "Molecular cloning and characterization of a novel type of histamine receptor preferentially expressed in leukocytes."; J. Biol. Chem. 275:36781-36786(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUB-Eosinophil;
MEDLINE-211046456; PubMed=11181941;
MEDLINE-211046456; PubMed=11181941;
Morse K.L., Behan J., Laz T.M., West R.E. Jr., Greenfeder S.A.,
Anthes J.C., Umland S., Wan Y., Hipkin R.W., Gonsiorek W., Shin N.,
Gustafson B.L., Qiao X., Wang S., Hedrick J.A., Greene J., Bayne M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Monsma F.J. Jr.; "Cloning and characterization of a novel human histamine receptor."; J. Pharmacol. Exp. Ther. 296:1058-1066(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Liu C., Ma X.-J., Jiang X., Wilson S.J., Hofstra C.L., Blevitt J., Pyati J., Li X., Chai W., Carruthers N., Lovenberg T.W.; "Cloning and pharmacological characterization of a fourth histamine receptor (H4) expressed in bone marrow."; Mol. Pharmacol. 59:420-426 (2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nakamura T., Itadani H., Hidaka Y., Ohta M., Tanaka K.; "Molecular cloning and characterization of a new human histamine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=21106320; PubMed=11179436;
Zhu Y., Michalovich D., Wu H.-L., Tan K.B., Dytko G.M., Mannan
Boyce K., Alston J., Tierney L.A., Li X., Herrity N.C., Vawter
Sarau H.M., Ames R.S., Davenport C.M., Hieble P., Wilson S.,
Bergsma D.J., Fitzgerald L.R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE=Leukocyte;
MEDLINE=20568725; PubMed=11118334; DOI=10.1006/bbrc.2000.4008;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=20538417; PubMed=10973974; DOI=10.1074/jbc.M006480200;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (SEP-2000) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 lochem. Biophys. Res. Commun. 279:615-620(2000)
                                                                                                                                                                                                                                                                                                     390 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A., AND CHARACTERIZATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A., AND CHARACTERIZATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    receptor."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A., AND CHARACTERIZATION
                                                                      192 FFYNWYFLITASTLEFFTPFLSVTFFN 218
                                                                                                                     121 FFYNWYFLITASTLEFFTPFLSVTFFN 147
                                                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Jones P.G., Wu S., Betty M.; "Cloning of a novel histamine
                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE=Bone marrow;
PubMed=11179434;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  receptor, HH4R."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM PO'Reilly M.A.;
                                                                                                                                                                                                                                                                                                     HH4R HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Name=HRH4;
                                                                                                                                                                                                                                                                   HH4R HUMAN
                                                                                                                                                                                                                                                                                                        HID DAT DE BERNER BERNE
                                                                                                                                   유
                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                132 RFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGGSSIPEGHCYAE 191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Witte D.G., Esbenshade T.A., Hancock A.A., Yao B.B.;
Submitted (FEB-2003) to the EMBL/GenBank/DDBJ databases.
-!- SUBCELLULAR LOCATION: Integral membrane protein (By similarity).
-!- SIMILARITY: Belongs to family 1 of G-protein coupled receptors.
EMBL; AV231165; AA063755.1;
--- GO, GO:0016021; C:integral to membrane, IEA.
GO; GO:0016021; F:integral to membrane, IEA.
GO; GO:0004872; F:receptor activity; IEA.
GO; GO:0001884; F:rhodopsin-like receptor activity; IEA.
InterPro; IRR000276; GPCR_Rhodpsn.
InterPro; IRR000276; GPCR_Rhodpsn.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 ADSSLRTQNNFFLLINLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 FLLNLAISDFLVGAFCIPLYVPYVLTGRWPFSRGLCKLWLVVDYLLCTSSVFNIVLISYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MERAPPOGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       72 FLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTSSAFNIVLISYD
                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MERAPPOGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Euteleostomi;
Canis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPA 170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPA 170
                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 147;
                                                                                                                                                                                                                                                                                                     36.4%; Score 860; DB 2; Length 200;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                31.9%; Score 754; DB 2; Length 14
95.9%; Pred. No. 1.2e-35;
ive 3; Mismatches 3; Indels
                                                                                                                                                                                                                                                                                                                                                                 0; Indels
                                                                                                                                PROSITE; PS00237; G-PROTEIN_RECEP_F1_1; 1.
PROSITE; PS50262; G-PROTEIN_RECEP_F2; 1.
G-protein coupled receptor; Receptor; Transmembrane.
SEQUENCE 200 AA; 21612 MW; 2038D14BC186D1EA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    147 AA; 16900 MW; 67F6A741B518B54E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae;
NCBI_TaxID=9615;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     G-protein coupled receptor; Receptor; Transmembrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-JUN-2003 (TrEMBLrel. 24, Created)
01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Histamine receptor H3 (Fragment).
                                                                                                                                                                                                                                                                                                                                Pred. No. 1.4e-41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            147 AA
                                                                                                                                                                                                                                                                                                                      100.0%; Pred. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE; PS00237; G PROTEIN RECEP F1 1; 1. PROSITE; PS50262; G PROTEIN RECEP F1 2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
      InterPro; IPR003980; H3_receptor.
                              Pfam; PF00001; 7tm 1; 1.
PRINTS; PR00237; GPCRRHODOPSN.
PRINTS; PR01471; HISTAMINEH3R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pfam, PF00001; 7tm 1; 1.
PRINTS; PR00237; GPCRRHODOPSN.
PRINTS; PR01471; HISTAMINEH3R.
                                                                                                                                                                                                                                                                                                                                   Best Local Similarity 100. Autches 170; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity >>..> Matches 141; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Name=HRH3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q865E3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 14
0865E3
AC Q865E8
AC Q865E
DT 01-JW
DT 
          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5
```

```
MIM; 606792; -.
G0; GO:0016021; C:integral to membrane; NAS.
G0; G0:0004969; F:histamine receptor activity; NAS.
InterPro; IPR00276; GPCR_Rhodpsn.
InterPro; IPR008102; Histamnrecept_H4.
                                                                                                                                                                                                                                                                                              EMBL, AB044934; BAB13698.1; --
EMBL, AB046370; BAB20091.1; --
EMBL, AF312230; AAG32052.1; --
EMBL, AF312230; AAK12081.1; --
EMBL, AF32949; AAK45542.1; --
EMBL, AJ298392; CAC88493.1; --
EMBL, AJ298392; CAC88493.1; --
EMBL, AX136745; AAN01271.1; --
                                                                                                                                                                                                                                                                                                                                                                                           Pfam; PF00001; 7tm 1; 1.
PRINTS; PR00237; GPCRHODOPSN.
PRINTS; PR01726; HISTAMINEH4R.
                                                                                                                                                                                                                                                                                                                                                      Genew; HGNC:17383; HRH4.
                                                                                                                                                                                                                                                                                                                                                                                                                                       19
40
52
73
                                                                                                                                                                                                                                                                                                                                                JC7566.
                 [8]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                            20
41
53
                                                                                                                                                                                                                                                                                                                                                                                                                                 ransmembrane
                                                                                                                                                                                                                                                                                                                                                PIR; JC7566;
                                                                                                                                                                                                                                                                                                                                                             MIM; 606792;
                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                         TRANSMEM
```

```
Search completed: June 2, 2005, 20:40:46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Job time : 87 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  319
                                                                                                                                                                                                                                                                                       DISULFID
CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         373
                                                   DOMAIN
TRANSMEM
                                                                                                       DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                TRANSMEM
DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                    LIPID
                                                                                                                                                                                                                                                                                                                                                                                                                                             CONFLICT
                     FRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                          CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local
     DOMAIN
                                                                                                                                                                                                                                                               DOMAIN
  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        variety or peripherat Lisbues, including the heart, Aumes, 1901.

lung, pancreas, skeletal muscle, prostate, small intestine, spleen, fetal liver and lymph node.

-!- INDUCTION: Expression is either up-regulated or down-regulated upon activation of the lymphold tissues and this regulation may depend on the presence of IL-10 or IL-13.

-!- MISCELLANEOUS: Does not bind diphenhydramine. Shows modest affinity for dimaprit, impromidine, clobenpropit, thioperamide, burimamide clozapine, immepip and imetit. The order of inhibitory activity was imetit > clobenpropit > burimamide > thioperamide, burimamide clozapine, impromidine, sa a partial agonist, dimaprit and impromidine show some agonist, adiaprit and impromidine show some agonist. activity while clozapine behaves as a full agonist. Thioperamide shows inverse agonism (enhances CAMP activity). The order of inhibitory activity of histamine > R(-)-alpha-methylhistamine > R(-)-alpha-methylhistamine behave as full
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                          SUBCELLULAR LOCATION: Integral membrane protein.
SUBCELLULAR LOCATION: Integral membrane protein.
SISSUB SPECIFICITY: Expressed primarily in the bone marrow and eosinophils. Shows preferential distribution in cells of immunological relevance such as T-cells, dendritic cells, monocytes, mast cells, neutrophils. Also expressed in a wide variety of peripheral tissues, including the heart, kidney, liver, variety of peripheral tissues, including the heart, kidney, liver,
"Identification of a histamine H4 receptor on human eosinophils - Role
                                                                                                                       Publ H.L. III, IReda S.R., Aronstam R.S.;
"cDNA clones of human proteins involved in signal transduction
sequenced by the Guthrie cDNA resource center (www.cdna.org).";
Submitted (JUL-2002) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: The H4 subclass of histamine receptors could mediate thistamine signals in peripheral tissues. Displays a significant level of constitutive activity (spontaneous activity in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SIMILARITY: Belongs to the G-protein coupled receptor 1 family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROSITE; PS00237; G PROTEIN RECEP F1 1; 1.
PROSITE; PS50262; G PROTEIN RECEP F1 2; 1.
G-protein coupled receptor; Glycoprotein; Lipoprotein; Palmitate;
                             in eosinophil chemotaxis.";
Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Extracellular (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 (Potential).
Cytoplasmic (Potential)
2 (Potential).
```

```
10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           90 LYVPYVLTGRWTFGRGLCKLWLVVDYLLCTSSAFNIVLISYDRFLSVTRAVSYRAQQGDT 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                266 HGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGSVASPTSSSGSS-----SRGTERPR 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   150 RRAVRKMLLVWVLAFILLYGPAIL---SWEYLSGGSSIPEG-HCYAEFFYNWYFLITASTL 205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAAGPEPPPEAQPSPPPPGCWGCWQKG 265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ------ WSLWKRD 205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SLMFSSRTKMNSNTIASKWGSFSQSDSVALHQREHVELLRARRLAKSLAILLGVFAVCWA 317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PYTLLMIIRAACHGHCVP-DYWYETSFWLLWANSAVNPVLYPLCHHSFRRAFTKLLCPQK 431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2
                                                                                                                                                                                                                                                                                                                                                                                                                                                         SLKRGSKPSASSASLEKRMKMVSQSFT-----QRFRLSRDRKVAKSLAVIVSIFGLCWA
                                                                                                                                                                                                                                                                                                                                                                                                                                      30 SAAWTAVLAALMALLIVATVLGNALVMLAFVADSSLRTQNNFFLLNLAISDFLVGAFCIP
                                                                                                                                                                                                                                                                                                                                                                                                  74; Gaps
                                                                                                                                                                                                                                    (Potential).
                                                                                                                                                                           Cytoplasmic (Potential).

By Similarity.
N-linked (GlcNAc. .) (Potential)
N-linked (GlcNAc. .) (Potential)
                                                                                                                                                                                                                                                   S-palmitoyl cysteine (Potential).
A -> V (in Ref. 1).
A -> R (in Ref. 1).
Q -> R (in Ref. 1).
C986B8AB7PF912C3 CRC64;
                                                                                                                                                                                                                                                                                                                                                              Length 390;
                                                                                                                                                                                                                                                                                                                                                          30.7%; Score 724; DB 1; Length 39
38.6%; Pred. No. 1.4e-33;
ive 56; Mismatches 131; IndelB
                                                                                                                      6 (Potential).
Extracellular (Potential).
7 (Potential).
Extracellular (Potential).
                                               4 (Potential).
Extracellular (Potential) 5 (Potential).
Cytoplasmic (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               44495 MW;
                                                                                                                                                                                                                                                                                                                                                                                                  Matches 164; Conservative
87
108
1131
1152
1172
1193
3304
3325
3361
3362
3360
1164
                                                                                                                                                                                                                                                                                                         253 ;
390 AA;
                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     432 LKIQP 436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         375 IKKOP 379
```

THIS PAGE BLANK (USPTO)

```
177.4
175.2
175.2
175.2
173.4
173.4
172.4
172.4
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
171.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURE:
  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 5, Appli
Sequence 5, Appli
Sequence 1, Appli
Sequence 1, Appli
Sequence 1, Appli
Sequence 16801, Ap
Sequence 16801, Ap
                                                                                                                                       05:14:06; Search time 445.596 Seconds (without alignments) 9911.021 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                     ω,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence Sequence S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence Sequence 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /cgn2_6/ptodata/1/ina/5A_COMB.seq:*
/cgn2_6/ptodata/1/ina/5B_COMB.seq:*
/cgn2_6/ptodata/1/ina/6A_COMB.seq:*
/cgn2_6/ptodata/1/ina/6B_COMB.seq:*
/cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*
/cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*
                     5.1.6
Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-167-354-5

US-09-642-855-5

US-09-642-855-5

US-09-949-016-5059

US-09-949-016-5059

US-09-949-016-5059

US-09-891-053-13

US-09-891-053-13

US-09-891-053-21

US-09-167-354-6

US-09-167-354-6

US-09-167-354-6

US-09-167-354-6

US-09-165-543-3

US-09-165-543-3

US-09-165-543-3

US-09-165-543-3

US-09-165-543-3

US-09-165-543-3

US-09-165-543-3

US-09-165-543-3

US-09-165-543-4

US-09-165-543-1

US-09-165-543-1

US-09-165-543-1

US-09-165-543-1

US-09-165-543-1

US-09-165-543-1

US-09-165-543-1

US-09-165-543-1

US-09-165-543-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      09-949-016-177027
                                                                                                                                                                                                                                                                                                                                                                                                                 Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                          1202784 segs, 818138359 residues
                       version 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                    nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                               Gapop 10.0 , Gapext 1.0
                       GenCore (c) 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Issued Patents NA:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                       seq length: 0
seq length: 200000000
                                                                                                                                                                                                                          US-10-727-021-5
                                                                                                                                             2, 2005,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
1350
375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2689
2689
2689
32689
32689
32689
33689
337
337
337
337
338
339
339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1086
1086
1056
                                                                                                                                                                                                                                                                                                              IDENTITY NUC
                                          Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     June
                                                                                                                                                                                                                                                2699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 . . . . . . .
                                                                                                                                                                                                                                                                                                            Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2635.2
2635.2
2633.6
1947.8
1380.2
1360.4
1335
1335
1335
1331.8
1331.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1201.8
1072.2
1032.6
1032.6
899.2
852.2
852.2
750.8
600.6
525.4
                                                                                                                                                                                                                                                  Perfect score:
                                                                                                    ı
                                                                                                  OM nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                       Sequence:
                                                                                                                                                                                                                                                                                                                                                                            Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Database
                                                                                                                                             on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Run
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        υ
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                 1339, Ap
1256, Ap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCTGCAGCAGCCGCGCTGCCGGCCCCCACTGGGCTCCGGATCCGGCCCCCGGCCCCTCGGCA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 ccaccracrerececececececececececes 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                     1178, Ap
518, App
12, Appl
512, App
8, Appli
8, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   520, App
1176, Ap
    1180, Ap
6, Appli
6, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                              Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCCAGCTCTCGGCCGCGCCCTGCCCCGCGTCCCGGAGCCGCGTGAGCCTGCGGGGCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCCAGCTCTCGGCCGGCGCCCTGCCCCGGGAGCCGCGTGAGCCTGCGGGGGCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGAGCGCGCCGCCCGACGGCCGCTGAACGCTTCGGGGGCGCTGGCGGCGATGCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCCGACCCGGCCAAGGGCCCCGCAAAGACGAGGCTCCCGGGGCCCGGGCCCCTCCCGGCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCGCCTGCTCTGGCCCCCGGCCCCGGCGGGACCATGCGCTGGGCGCCCCCAGGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCACGCGTCCGCCGGCTGCACGGTCGCACCGGCAGCGGCTCAGGCTCCGGCTCCTCTCTCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCTGCAGCAGCCGCGCTGCCGGCCCCATGGGCTCGGATCCGGCCCCGGCCCCCTCGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INCORPATION:
APPLICANT: Lovenberg, Timothy
APPLICANT: Lovenberg, Timothy
APPLICANT: Lovenberg, Timothy
APPLICANT: Briander, Mark
APPLICANT: Pyati, Jayashree
APPLICANT: Huvar, Arne
TITLE OF INVENTION: SUBTYPE
TITLE OF INVENTION: SUBTYPE
FILE REFERENCE: JWW
CURRENT APPLICATION NUMBER: US/09/167,354A
CURRENT FILING DATE: 1998-10-07
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 5
LENGTH: 2699
TYPE: DNA
TYPE: DNA
TYPE: DNA
CURRENT ARLificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gape
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     H3
                                                                                              Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Seq
Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 2699;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; OTHER INFORMATION: Description of Artificial Sequence: CDNA US-09-167-354-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3;
                                  US-08-313-553-6
US-08-77-993-6
US-09-826-509-518
US-09-891-053-12
US-09-891-053-12
US-09-891-053-12
US-09-891-053-12
US-09-116-434-1339
US-09-016-434-1256
US-09-016-434-1256
US-09-016-434-126
US-09-016-434-1356
US-09-016-434-1356
US-09-016-434-136
US-09-016-434-136
US-09-016-434-136
US-09-016-434-136
US-09-016-434-136
US-09-016-434-136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%; Score 2699;
100.0%; Pred. No. 0;
ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-167-354-5
; Sequence 5, Application US/09167354A
; Patent No. 6136559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 100.
Best Local Similarity 100.
Matches 2699; Conservative
33604
11956
11956
11956
11956
11581
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
11386
```

1441 GOCCOCCTOCCOCCTOCCTOCCTOCCTOCCTOCCTOCCTO
8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6
101 GRANGOGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG

B 65 B 65 B

6 B 6 B 6 B 6 B 6 B

qa oʻ

421 GGCGCTGCTCATCGTGGCCACGGTGCTGGCAACGCGCTGGTCATGCTCGCCTTCGTGGC 480	481 CGACTCGAGCCTCCGCACCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGACTT 540	481 CGACTCGAGCCTCCGCACCCAGAACTTCTTCCTGCTCAACCTCGCCATCTCCGACTT 540	CCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGGAC	601 CTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCCTC 660	661 TGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTC 720	121 ATACCGGGCCCAGCAGGCGGCGGGGGGGGGGGGGGGGGG	781 GCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGGGTACCTGTCCGGGGGCGG 840	841 CTCCATCCCGGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCAC 900	901 GGCTICCACCCTGGAGITCITIACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCAT 960	961 CTACCTGAACATCCAGAGGGGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCGG 1020 	1021 CCCCGAGCCCCTCCCGAGGCCCAGCCTCACCACCCCCCACCGCTGGTGCTGGGGCTG 1080	1081 CTGGCAGAAGGGGCACGGGAGGCCATGCCGCTGCACAGTATGGGGTGGTGAGGGGGC 1140		1201 TTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGAGGCCACTGAGAGGCCGCGCTCACTCA	1261 GAGGGCTCCAAGCCGTCGCGCCTCGCTGGTGGAAGCGCATGAAGATGGTGT 1320	1321 CCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTGGCTGGC	1381 CGTCATCGTGAGCATCTTTGGGCTCTGCTGGCCCCATACACGCTGCTGATCATCCG 1440	1441 GGCGGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTCCT 1500	1501 GTGGGCCAACTCGGCTGTCAACCCTGTACCCTCTGTGCCACCACAGCTTCCGCCG 1560
qq	δ	ය දි	3 8	송 음	\$ Q	යි ර	8 8	λ Q	ζ Q	S G	& 8	S G	ço G	& g	& g	S Q	රු සි	ර් සි	S S
2521 CAAGGCGTGCAGGGCGGTCCAGAGGAGGTGCCCGGGGCGGCGCGCTTCGCCATGTGCT 2580	2521 CAAGGCGTGCAGGGCGGTCCAGAGGAGCTGCCCGGCAGGGGCCGCTTCGCCATGTGCT 2580	2581 GIGCACCGGGCCCACGCGCTCTGCATGCTCTGCCTGTGCCCGCTGCGCTGCCCTGCA 2640	ARCCACCOSTACCACACACACACATTTTTTAAAAAAAAAAAA	2641 AACCGTGAGGTCACATAAAGTGTATTTTTAAAAAAAAAA	:SULT 2 	GENERAL INFORMATION: APPLICANT: Lovenberg, Timothy APPLICANT: Brlander, Mark APPLICANT: Pyati, Jayashree	APPLICANT: HUVAI, Arne TITLE OF INVENTION: DNA ENCODING A HUMAN HISTAMINE RECEPTOR OF THE H3 TITLE OF INVENTION: SUBTYPE FILE REFERENCE: JWW	CURRENT APPLICATION NUMBER: US/09/642,855 CURRENT FILING DATE: 2000-08-21 FRIOR APPLICATION NUMBER: 09/167,354 FRIOR FILING DATE: 1998-10-06	NUMBER OF SEQ 1D NOS: 8 SOFTWARE PATENTIN Ver. 2.0 SEQ ID NO 5 LENGTH: 2699	TYPE: DNA OTHER: DNA OTHER: INFORMATION: Description of Artificial Sequence: CDNA	100.0%; Score 2699; DB 3; Length 2699; imilarity 100.0%; Pred. No. 0; A. Tadala	0; MIBMACCHES 0; INGELS 0; GABS TRECACGETCGGCTCCGGCTCCCC 60	GENERAL AGENCIA CONTROLLA	CGCCTGCTGCCCCCGGGCCCCGGGGACCATGCGCTGGGGCCCCCCAGGGAA	ACCGACCCGGCCAAGGCCCGCAAAGACGAGGCTCCCGGGCCCGGGCCCTCCCGGCCGCCCGAACCCGACCCCGGGCCCCGGCCCGGCCCGCAAGACGAGGGTCCCGGGCCCGGGGGCCCCTCCCGGCCCCGCAAGACGAGGGTCCCGGGGCCCCTCCCGGCCCCCCGCGAGGCTCCCGGGGCCCCCCGGCGGCCCCCCCGCAAGACGACGAGGCTCCCGGGGCCCCCCCC				GGCGCTGCTCATCGTGGCCACGTGCTGGCACGCGCTGGTCATGCTCGTGGC 48

3 B 3 B 3 B 3 B 3 B 3 B 3 B 3

Oy 2641 AACCGTGAGGTCACAATAAACTGTATTTTTTAAAAAAAAA	81 C C C C C C C C C C C C C C C C C C C		FILE REFERENCE: ORT1290 ; CURRENT APPLICATION NUMBER: US/09/642,514 ; CURRENT FILING DATE: 2000-08-21 ; PRIOR APPLICATION NUMBER: US 09/167,354	; PRIOR FILING DATE: 1998-10-06 ; NUMBER OF SEQ ID NOS: 8 ; SOFTWARE: Patentin Ver. 2.0 ; SEQ ID NO 5	LENGTH: 2699 TYPE: DNA ORGANISM: Artificial Sequence FEATURE:	Description	Best Local Similarity 100.0%; Pred. No. 0; Matches 2699; Conservative 0; Mismatches 0; Indels 0; Gaps Qy 1 CCACGCGTCCGCCGGCTGCACGCTCGAGGCTCCGGCTCCTCCTCCC 60		61 GCTGCAGCAGCGCTGCCGGCCCCACTGGGCTCGGATCCGGCCCCCGGCCCCTCGGAA	Db 121 CGGCTGCTGGGCCCCGGCCCCGGGACATGGTTGTTTTTTTT	Qy 181 ACCCGACCCGGCCAAGGCCCGCAAAGACGAGGCTCCCGGGGCCCCTCCCGGGCC 240	CCCAGCTCTCGGCCGGCCCTGCCCGGGTCCCGGAGCCGTGAGCCTGCGGGGCCAT	Db 241 CCCAGCTCTCGGCCCCTGCCCCGCGCTCCGGGGCCGTGAGCCCTTGGGGGCCGTGGGGGCCCAT 300 301 GGAGGCGCGCCGCCCGACGGCCGCTGAACGCTTCGGGGCCGCTGGGGCGGCGGGCG	301	GCCGCCGCGCGCGCCGCCCTTCTCCGCCACCTTCTCTCGCCCCCGCGCTCCTCGCCCCCCCC		Db 421 GGGGTGCTCATCGTGGCCACGGTGCTGGGCAACGGCGTGGTCATGCTCGCCTTCGTGGC 480 481 CGACTCGAGGCTCGGCACCCAGAACAACTTCTTCGTGCTCAACGTCGCCATCTCGAACTT 540	Db 481 CGACTCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGACTT 540
1561 GGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGGTCCCTGGA 1620 		1741 CGCCGTGTCTGTGGCCCTCTTAATGCCACGCAGCCACCCTGCCATGGAGGCGCCTTC 1800 	1801 CTGGGTTGGCCAAGAGCCCCTCACTGGCTGGACTGGAGGCTGGCT	1861 CCCACATTCTGGCTCCACGGGAGGACAGTCTGGAGGTCCCAGACATGCTGCCCACCC 1920 	1921 CCTGCTGGTGCCCACCCTTCGCAGTTACTGGTTGTTCTTCCCAAAGCAAGC	1981 GTGTGCTCCAGGCCTTGCAGAGTTTGCCTCTGCACGACACACAC	100 100		CTCTGCCCCCAAAGTGTCAAGGGGCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTCCA	2221 TTCTTGGGTGTTTTTGAGAAGAGAGAGAAAAAAATTTTTGAAAACTTGATGAAGAGATTGATGTTGTGGGG 2280	2221 TTCTGGGTGTTTTCAGAAAGATGAAGAAAAAATTTTTTCGGG 2280 2281 ATGTTTAATCAAGAGAAAAATTGCTGAGAGGTCAGGGCTTGATGTTGGCAGGTGTGGG 2340		2341 CTCCCACGCCTCCTCCTCCGCTAAGGCTTCCGGCTGAGCTGTGCCAGCTGCTTCTGCC 2400 1			2461 GCTCACCCAGGACCTCTGGGGGGGTTGTTGTTGTTGTTGGGGGCCCGGCTGGGCCCGAGGGTC 2520	25.21 CAAGGCGTGCAGGGGCGGTCCAGAGGAGGTGCCCGGGCCAGGGGCCGCTTCGCCATGTGCT 25.80 25.21 CAAGGCGTGCAGGGGGGGTGCCCGGGCCCGGGCCAGCTGCCCATGTGCT 25.80	2581 Grocaccogracocogracicangoangerecreterocogracocogracocracoa 2640

Mon

हें ह	1681	681 GTCTCCTGGGCCATCTGGCCCTGCTGCCCGGCTCGTTCCCCCAGGGGTGAGCCC 1740
ga	1681	GICICCIGAGCAICIGGCCCIIGCIGCCCCCIACCCGGCICGIICCCCCAGGGGGAGGGCCC 1740
ò	1741	CGCCGTGTCTGTGGCCCTCTCTTAATGCCACGCAGCCACCCTGCCATGGAGGCGCCTTC 1800
QQ	1741	CGCCGTGTCTGTGGCCCTCTTTAATGCCACGCAGCCACCCTGCCATGGAGGCGCCTTC 1800
ò	1801	CTGGTTGGCCAGAGGCCCCTCACTGGCTGGACTGGAGGGGGGGCCGGCC
q	1801	creserresceaasescecreacreseresacresaseseses esceses es 1860
ò	1861	CCCACATTCTGGCTCCACCGGGGGGGGCAGTCTGGAGGTCCCAGACATGCTGCCCACCC
QQ	1861	cccacattctggctccaccgggggggggacagtctggaggtcccagacatgctcccaccc 1920
ζ	1921	CCTGCTGGTGCCCACCTTCGCAGTTACTGGTTGGTTCTTCCTACCAAGCAAG
qq	1921	ccrecrescreccrrcecastracrestresrerreccaaascaccres 1980
λ̈	1981	GIGIGCICCAGGCTICCIGCCCTAGCAGTITGCCTCTGCACGTGCACACCACCACCACCACC 2040
qq	1981	grerectedectrectecetadeaerreceretedeaeaeacacetecaeae
ò	2041	
qq	2041	ccrecacacacacacacacacacacacacacaaacaaaca
δ	2101	CCTTCTGTCTCTTGCATAAGCCTCAGGCCTTGCCCCTCTTCCCACCACTC 2160
qq	2101	ccricigricitataradecricagecridececriricacecricitatecric 2160
ò	2161	CTCTGCCCCCAAAAGTGTCAAAGGGCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTCCA 2220
qq	2161	CTCTGCCCCCAAAAGTGTCAAGGGGCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTCCA 2220
ò	2221	TTCTGGGGTGTTTTCAGAAAGATGAAGAAAAAATGTCTGTGAACTTGATGTTCGTGGG 2280
Q	2221	TTCTGGGTGTTTTCAGAAGAAGAAGAAAACATGTCTGTGAACTTGATGTTCGTGGG 2280
ò	2281	ATGTTTAATCAAGAGACAAAATTGCTGAGGAGCTCAGGGCTGGATTGGCAGGTGTGG 2340
Ωp	2281	ALGITITAATCAAGAGAGAGAGACAAAATTGCTGAGGAGCTCAGGCTGGATTGGCAGGTGTGGG 2340
λ	2341	CTCCCACGCCTCCTCCTCCGCTAAGGCTTCCGGCTGAGGTGCCAGCTGCTTCTGCC 2400
qq	2341	CTCCCACGCCTCCCTCCGCTAAGGCTTCCGGCTGAGCTGTGCCAGCTGCTTCTGCC 2400.
ò	2401	CACCCCCCCTCTGGGCTCACACCAGCCTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTT 2460
DÞ	2401	CACCCGGCTCTGGGCTCACACCAGCCCTGGTGGCCAGCCTGCCCCGGCCACTCTGTTT 2460
ò	2461	GCTCACCCAGGACCTCTGGGGGGTTGTTGGGAGGGGGCCCGGCTGGGCCCGAGGGTCC 2520
Ωþ	2461	GCTCACCCAGACCTCTGGGGGGTTGTTGGGAGGGGGCCCGGCTTGGGGCCCCGAGGGTCC 2520
'n	2521	CAAGGCGTGCAGGGGCGGTCCAGAGGAGGTGCCCGGGCAGGGGCCGCTTCGCCATGTGCT 2580
qq	2521	caadecigracadecigerccadadeadercccedecadedeccerrreccarerect 2580
ò	2581	GIGCACCCGIGCCACGCGCTCTGCAIGCTCCTCTGCCTGTGCCCCGCTGCCCTGCA 2640
ą	2581	discaccediscedesectriscalistical carefected actions and a series of the
ờ		AACCGIGAGGICACAATAAAGIGTATTTTTAAAAAAAAAA
ΩP	2641	aaccetgagetcacaataaactetattttttaaaaaaaaaa

RESULT 4 US-08-985-090-1 ; Sequence 1, Application US/08985090

ဖ

```
857 IGCCGAGTICTICTACAACTGGTACTICCTCATCACGGCTICCACCCCGGAGTICTITAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1037 GCCTCACCCCCCCCCCGCCTGGCTGGGGCTGCTGGCAGAGGGGCACGGGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTCGGCCTCACTGGAGAAGCGCATGAAGATGGTGCCCAGAGCTTCACCCCAGCGCTTTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1337 GCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTGGCCGTCATCGTCAGCCTCTTGGGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCCTGACTACTGGTACGAAACTCCTTCTGGCTCCTGTGGGCCAACTCGGCTGTCAACCC
                                437 GCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTGGCCGACTCGAGCCTCCGCACCCAGAA
                                                                                                                                                        CTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTCATACCGGGCCCAGCAGGTGACAC
                                                                                                                                                                                                                                                                                                                                  737 GCGCCGCGCAGTGCCGAAAGATGCTGCTGCTGGGTGTGGGCTGTGCCTTCCTGCTGCTGTACGGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCATCTACCTGAACATCCAGAGGCGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         917 GCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCATCTACCTGAACATCCAGAGGCGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         977 CCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCCGGCCCCCGAGCCCCCTCCCGAGGCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCCCTCACCACCCCCACCGCCTGCTGCTGGGCTGCTGGCAGAAGGGGCACGGGGAAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CATGCCGCTGCACAGGTATGGGGTGGGTGAGGCGGCCGTAGGCGCTGAGGCCGGGGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GACCCTCGGGGGGGGGGGGGGGGGCGCTCCGTGGTTCACCCCACCTCCAGCTCCGGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTCCTCGAGGGGCACTGAGAGGCCGCGCTCACTCAAGAGGGGCTCCAAGCCGTCGGCGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCCTGACTACTGGTACGAAACCTCCTTCTGGCTCCTGTGGGCCAACTCGGCTGTCAACCC
                                                                                                        497 CAACTTCTTCCTGCTCAACCTCGCCATCTCCGACTTCCTCGTCGGCGCCCTTCTGCATCCC
                                                                                                                                     ACTGTATGTACCCTACGTGCTGACAGGCCGCTGGACCTTCGGCCGGGGGCCTCTGCAAGCT
                                                                                                                                                                                                GTGGCTGGTAGTGGACTACCTGCTGTGCACCTCCTCTGCCTTCAACATCGTGCTCATCAG
                                                                                                                                                                                                                                                       CTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTCATACCGGGCCCAGCAGGGTGACAC
                                                                                                                                                                                                                                                                                                                GCGGCGGCCAGTGCCGGAAGATGCTGCTGGTGGTGCTGGCCTTTCCTGCTGTACGGACC
                                                                                                                                                                                                                                                                                                                                                                          AGCCATCCTGAGCTGGGAGTACCTGTCCGGGGCAGCTCCATCCCCGAGGGCCACTGCTA
                                                                                                                                                                                                                                                                                                                                                                                                    AGCCATCCTGAGCTGGGGGTACCTGTCCGGGGCAGCTCCCATCCCCGAGGGGCCACTGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                   TGCCGAGTTCTTCTACAACTGGTACTTCCTCATCACGGCTTCCACCCTGGAGTTCTTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCCGGCCCCCGAGCCCCCTCCCGAGGCCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTCCTCGAGGGGCACTGAGAGGCCGCGCTCAAGAGGGGGCTCCAAGCCGTCGGCGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTCGGCCTCGCTGGAGAAGCGCATGAAGATGGTGTCCCAGAGCTTCACCCAGCGCTTTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTGCTGGGCCCCATACACGCTGCTGATGATCATCCGGGCCGCCTGCCATGGCCACTGCGT
                                                                                                                                                                                                                                                                                                                                                                          805
                                                                                                                                                                                                                                                                                                                                                                                                      797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1345
                  445
                                                                            505
                                                                                                                                     265
                                                                                                                                                                                              625
                                                                                                                                                                                                                                                       685
                                                                                                                                                                                                                                                                                   677
                                                                                                                                                                                                                                                                                                                745
                                                                                                                                                                                                                                                                                                                                                                                                                                    865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1465
                                                                                                                                                            g
                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                           ò
                                                                                                     g
                                                                                                                                                                                            à
                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                    S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCACTGGGGTTCGGATCCGGCCCCCCTCGGCACCGCCTGCTTTGGCCCCCCGGCCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTCGGCAGCCTGGACCGCGGTGCTGGCCGCGCTCATGGCGCTGCTCATCGTGGCCACGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCACTGGGCTCGGATCCGGCCCCCGGCCTCGCCACGCCTGCTCTGGCCCCGGCCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCCCCGCGGACCATGCGCTGGGCGCCCCCAGGGGAAACCCGGACCCGGCCAAGGGCCCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGACGAGGCTCCCGGGCCCCCTCCCGGCCGCCCAGCTCTCGGCCGCGCCCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCACCGGCAGCGGCTCAGGCTCCGGCTCCCCGCTGCAGCAGCCGCGCTGCCGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCACCGGCAGCGGCTCAGCTCCTCTCCCCCCTGCAGCAGCCGCCTGCCGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 2689;
GENERAL INFORMATION:
APPLICANT: Andrew D.J. Goodearl
TITLE OF INVENTION: MUSCARINIC RECEPTORS AND USES THEREFOR NUMBER OF SEQUENCES: 28
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                            ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/985,090
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ω
;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 2635.2;
Pred. No. 0;
0; Mismatches
                                                                                         LLP
                                                                                       ADDRESSEE: LAHIVE & COCKFIELD, STREET: 28 State Street
                                                                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
NAME: Jean M. Silveri
REGISTRATION NUMBER: 39,030
REFERENCE/DOCKET NUMBER: MNI-
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617)227-7400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             97.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: (617)742-4214
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 2689 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 99.8
Matches 2659; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                    CITY: Boston
STATE: Massachusetts
                                                                                                                                                                                                                                                                                               PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                291..1625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE: CDNA
                                                                                                                                                   USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; NAME/KEY:
; LOCATION:
US-08-985-090-1
                                                                                                                                                 COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
```

1036 1104 1096 1164

1044

976

984

916

1276

1344 1336 1404 1396

1216

1224

1516

1456

g

8 &

ઠે

g

g

8 6 8 6

음

ઠ

셤

ઠે

8 & 8

ò

ò

```
144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ccacradecredearecedececedececenedearecederecerececedesecedes 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                138 gecececeacearecerredecerecerececececease-aaceceaceceaceaage 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18 CGCACCGGCAGCCGCTCAGGCTCCTCTCTCCCGCTGCAGCAGCCGCGCTGCGGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCACTGGGCTCGGATCCGGCCCCCGGCCCCTCGGCACCGCCTGCTCTGGCCCCCCGGCCCCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCCCCGCGGACCATGCGCTGGGCGCCCCCAGGGGAAACCCGACCCGGCCAAGGGCCCGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 3; Length 2689;
                                                                                                                                                                                  Sequence 1, Application US/09165543
Patent No. 6093545
GENERAL INFORMATION:
APPLICANT: Andrew D.J. Goodearl and Sandra Glucksman
TITLE OF INVENTION: Muscarinic Receptors and Uses Therefor
NUMBER OF SEQUENCES: 39
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                       ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/165,543
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 97.6%; Score 2635:2; Best Local Similarity 99.8%; Pred. No. 0; Matches 2659; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION:
PRIOR APPLICATION DATA:
PRIOR APPLICATION NUMBER: 09/042,780
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Elizabeth A. Hanley
REGISTRATION NUMBER: 33,505
REFERENCE/DOCKET NUMBER: MNI-032CP
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617)227-7400
TELEPHONE: (617)227-7400
TELEPHONE: (617)742-4214
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 2689 base pairs
                                                          2665 ATTTTTTAAAAAAAAAAAAAA 2688
                                                                                             2656 ATTTTTTAAAAAAAAAAAAA 2679
                                                                                                                                                                                                                                                                                                              ADDRESSEE: LAHIVE & COCKFIELD, LLP STREET: 28 State Street CITY: Boston STATE: Massachusetts COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CDS
291..1625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY: linear MOLECULE TYPE: cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; NAME/KEY:
; LOCATION:
US-09-165-543-1
                                                                                                                                                    RESULT 5
US-09-165-543-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                145
                        2596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      205
                                                         ò
                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                        요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                       1816
                                                                                                                                                                                                                                                                                                                                                                                                             1875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2544
       1584
                                                                                                                1636
                                                                                                                                                                                                                                             1697 GCCCCTACCCGGCTCGTTCCCCCAGGGTGAGCCCCGCCGTGTCTGTGGCCCTCTTA 1756
                                                                                                                                                                                                                                                                                                  1824
                                                                                                                                                                                                                                                                                                                                                                         1884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2056 CTCTCCCCGGACAAGCCCAGGACACTGCCTTTGCTGCCTTCTGTCTTGCATAAGCCTC 2115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2476 GTTGGGAGGGGCCCGGCTGGGCCCGAGGGTCCCAAGGCGTGCAGGGGCGGTCCAGA 2535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2595
                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGGACAGTCTGGAGGTCCCAGACATGCTGCCCCACCCCTGCTGGTGCCCACCCTTCGCAG 1944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2176 GCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTCCATTCTGGGTGTTTTCAGAAAGATGA 2235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2605 ATGCTCCTCTGCCTGTGCCCGCTGCGCTGCAAACCGTGAGGTCACAATAAAGTGT 2664
   1637 CCAGAGCCTCCCTCAGCCACGCCTCTCTCAGCCCCAGGTCTCCTGGGCATCTGGCCCTGCT
                                                                                                                                                                                                                                                                                                                       ATGCCACGCAGCAGCACCTGCCATGGAGGCGCCTTCCTGGGTTGGCCAGAGGGCCCTCA
                                                                                                                                                                                                                                                                                                                                                                                            CTGGCTGGACTGGAGGCTGGCTGGCCCGCCCCCCCCCCACATTCTGGCTCCACC-GGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTACTGGTTGGTGTTCTTCCCAAAGCAAGCACCTGGGTGTGCTCCAGGCTTCCTGCCCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTACTGGTTGGTGTTCTTCCCAAAGCAAGCACCTGGGTGGCTCCAGGCTTCCTGCCCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCAGTTTGCCTCTGCACGTGCACACCTGCACACCCTGCACACACCTGCACCGTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1996 GCAGTTTGCCTCTGCACGTGCACACACCCTGCACACCCTGCACACCCTGCACACCCTGCACACCCTGCACACACCTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTCTCCCCGGACAAGCCCAGGACACTGCCTTTGCTGCCTTCTGTCTTTGCATAAGCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2116 Addectidecerrireaceeererriceaceacitererreceace
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2356 AAGGCTTCCGGCTGAGCTGTGCCAGCTGCTTCTGCCCACCCGCCTCTGGGCTCACACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2416 GCCCTGGTGGCCAAGCCTGCCCCGGCCATTTGCTCACCCCAGGACCTCTGGGGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCCCCCTACCCGGCTCGTTCCCCCAGGGGTGAGCCCCGCGGTGTCTGTGGGCCCTCTTA
                                                                                                                                                                                                                                                                                                  ATGCCACGGCAGCCACCCTGCCATGGAGGCGCCTTCCTGGGTTGGCCAGAGGGCCCCTCA
                                                                                                                                                                                                                                                                                                                                                                         CTGGCTGGACTGGAGGCTGGCCGGCCCTGCCCCCCCACATTCTGGCTCCACCGGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGGCCTGGCCCTTTCACCCCTCTTCCCACCAAACTCTCTGCCCCCAAAAGTGTCAAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTCCATTCTGGGTGTTTTCAGAAAGATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGAAGAAAACATGTCTGTGAACTTGATGTTCGTGGGATGTTTAATCAAGAGAGACAAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAGGCTTCCGGCTGAGCTGTGCCAGCTGCTTCTGCCCACCCCGCCTCTGGGCTCACACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCCCTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTTGCTCACCCAGGACCTCTGGGGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1645
                                                                                                                                                                                                                          1705
                                                                                                                                                                                                                                                                                                  1765
                                                                                                                                                                                                                                                                                                                                   1757
                                                                                                                                                                                                                                                                                                                                                                       1825
                                                                                                                                                                                                                                                                                                                                                                                                           1817
                                                                                                                                                                                                                                                                                                                                                                                                                                                 1885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2545
                                                                             1585
```

ద

8 8

ઠ

셤

ઠે

셤

8 B

ò

ò

셤

8 8 8 8

ò

8 6

6 B 6 B 6 B 6

8 6 8 6 8 6 8

6 6 6 6 6 6

8 6 8 6 8 6 8 6 8

상 음

B 公 B 公 B 公 B 公 B

310 CGGGGCGCGCGCTTCTCGGCAGCCTGGACCGCGGCTGCTCGTGGCGCTGCT 429	CATCGRGCTCATCAGCTACGGCTTCCTGTCGGTCACCCGAGCGGTCTCATACCGGGC 729 CAGCGCAGCGTCACCAGCCGCTTCCTGTCGGTCACCCGAGCGGTCTCATACCGGGC 722 CCAGCAGGGTGACAGCGGCGGGGGGAAGATGCTGCTGGTGTGGGTCTCTGTCCGGGC 722 CCAGCAGGGGGGGGGGGGGGGGAAGATGCTGCTGGTGTGGGTCTGGCCTT 783 CCTGCTGTTGTGACCAGCGGGGGGGAAGATGCTGCTGGTGGGGTGTGGCTGCTCTT 783 CCTGCTGTTACGGCCATCCTGAGCTGGGAAGATGCTGCTGGGGGTGCTGGCTCCATCCC 843 CCTGCTGTACGGCCATCCTCAGCTGGAGATACTTCTTCCTGAGCTGCTCCATCCC 843 CGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCAGGCTTCCAC GAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCACGGCTTCCAC CCTGGAGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCACGGCTTCCAC CCTGGAGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATCACGGCTTCCAC CCTGGAGTTCTTTACGCCCTTCCTCACACTGGTACTTTTAACCTCAGCATCTACCTGAA 963 CCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACTTCTTTAACCTCAGCATCTACCTGAA 963 CCTGGAGTTCTTTAACGCCCTTCCTCAGCGTCACTTCTTTAACCTCAGCATCTACCTGAA 963 CCTGGAGTTCTTTAACGCCCTTCCTACAGCTCCTCTTTAACCTCAGCATCTACCTGAA 963 CCTGGAGTTCTTTAACGCCCTTCCTACAGCTCCTACAGCATCTACCTGAA 963 CCTGGAGTTCTTTAACGCCCTTCCTCAGCGTCCAGCATCTACCTGAA 963 CATCCAGAGGCCCACCCGCTCGGATGGGGTCCAGAGCCGGCCCCGAGCC 102 CATCCAGAGGCCCCCCCCCCCCCCCGGCTGGATGGGGTCCGAGCCCCGGAGCC 102 CATCCAGAGGCCCACCCGCTCCTCCTCCAGCGTCCAGCGTCCCGAGCC 102 CATCCAGAGGCCCCCCCCCCCCCCCCCCCCCGGCTCCAGCCCCCGAGCC 102 CATCCAGAGGCCCCCCCCCCCCCCCCCCCCCCGGCTCCCAGCCCCCCGAGCC 102 CATCCAGAGGCCCCCCCCCCCCCCCCCCCCCCCCCCCC	1023 CCCTCCGAGGCCCAGCCCCCCCCCCCCCCCCGCCCGCTGCTGGGCTCGTGGGCTGGCCGGCCGGGCCGGGCCGGGCCGGGCCGGGCCCGGGCCCGGGCCCGCCCGCCCGCCCC
8 6 8 6 8 6 8 6	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
	SSULT 6 5-09-949-016-5059 Sequence 5059 Patent No. 681239 GENERAL INFORMATION: APPLICANT: VERNER, J. Craig et al. APPLICANT: VENTER, J. Craig et al. TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF FILE REPRENCE: CLOO1307 CURRENT PPLING DATE: 2000-04-14 PRIOR APPLICATION NUMBER: 60/241,755 PRIOR APPLICATION NUMBER: 60/241,755 PRIOR FILING DATE: 2000-10-20 PRIOR FILING DATE: 2000-10-30 PRIOR FILING DATE: 2000-0-08 RIOR FILING DATE: 2000-0-08 NUMBER OF SEQ ID NOS: 207012 SOFTWARKE: FastESEQ for Windows Version 4.0 SEQ ID NO 5059 LENGTH: 2665 TYPE: DNA ORGANISM: Human ORGANISM: Human	Query Match 97.6%; Score 2633.6; DB 4; Length 2665; Best Local Similarity 99.8%; Pred. No. 0; 4; Indels 2; Gaps 2; 10 GGCGGCTGAGGGGCTGAGGCTCAGGCTCCAGCAGCA 69 CTCCGGCTGCACGGACGGCTCAGGCTCAGGCTCCTCCCGCTGCAGCA 63 1 CTCCGGCTGCACGGACGGGCTCAGGCTCAGGCTCCTCCCGCTCAGCAGCA 63 70 GCCGGCTGCACGGACCGACGGGTCCAGGCTCCAGGCTCCTCCGGCTCCTCTCCCGCTGCAGCAGCACCCCCAGGCCCCCAGGCCCCCAGGCCCCCCAGGCCCCCC

```
Sequence 16801, Application US/09949016
| Patent No. 6812339
| GENERAL INFORMATION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
| TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
| TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
| TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
| TILLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF;
| CURRENT APPLICATION NUMBER: 00/241, 755 |
| PRIOR PILING DATE: 2000-10-20 |
| PRIOR APPLICATION NUMBER: 60/231, 498 |
| PRIOR PILING DATE: 2000-10-03 |
| PRIOR PILING DATE: 2000-09-08 |
| WUMBER OF SEQ ID NOS: 207012 |
| SEQ ID NOS: 207012 |
| SEQ ID NO 16801 |
| CARRENT SECRETARY OF THE NUMBER OF THE NUM
                                        2649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2522 CAGGGGCGGTCCAGAGGAGGTGCCCGGGCCAGGGGCCGCTTCGCCATGTGCTGTGCACCCCG 2581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CITTACGCCCTTCCTCAGCGTCACCTTCTTAACCTCAGCATCTACCTGAACATCCAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGCCACGCGCTCTGCATGCTCCTCTGCCCTGTGCCCGCTGCGCTGCCCTGCAAACCGTGAG
                                                                           CGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGGCAGCTCCATCCCCGAGGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCATCTACCTGAACATCCAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGGACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCCGGCCCCGAGCCCCCTCCCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGAGGCCATGCCGCTGCACAGGTATGGGGTGAGGCGCCGCCGTAGGCCGCTGAGGCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5719 GGAGGCCATGCCGCTGCACAGGTATGGGGTGAGGCGGCCGTAGGCGCTGAGGCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTCATACCGGGCCCCAGCAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGACACGCGGCGGCCAGTGCGGAAGATGCTGCTGGTGGGGTGCTGGCCTTCCTGCTGTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGCAGCTCCATCCCCGAGGGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGCCCAGCCCTCACCACCCCCACCGCCTGCTGGGGGCTGCTGGCAGAAGGGGCACGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ï
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 9293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                22; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         72.2%; Score 1947.8; 98.8%; Pred. No. 0; ive 0; Mismatches
                                                                                                                 GTCACAATAAAGTGTATTTTTTA 2673
                                                                                                                                     2642 GTCACAATAAAGTGTATTTTTTTA 2665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 72.2
Best Local Similarity 98.8
Matches 1972, Conservative
                                                                                                                                                                                                            RESULT 7
US-09-949-016-16801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; TYPE: DNA
; ORGANISM: Human
US-09-949-016-16801
                                        2590
                                                                                                                 2650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            859
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      919
                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                             ò
                                                                                                                                                  원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2409
                                                                                                                                     1629
                                                                                                                                                                       1622
                                                                                                                                                                                                            1689
                                                                                                                                                                                                                                                                                                       GCATCTGGCCCTGCTGCCCCTACCCGGCTCGTTCCCCCAGGGGTGAGCCCCCGCCGTGTC 1742
                                                                                                                                                                                                                                                                                                                                                                                                                                    1869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2589
                                                                                                                                                                                                                                                 1682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2101
                                                                                                                                                                                                                                                                                                                                                                                TGTGGCCCTCTCTTAATGCCACGGCAGCCACCCTGCCATGGAGGCGCCTTCCTGGGTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGGCTTCCTGCCCTAGCAGTTTGCCTCTGCACGTGCACACACCTGCACACCCCTGCACAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAAAAGTGTCAAGGGCCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTCCATTCTGGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTGGGCTCACCACCCAGCCCTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTTGCTCACCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAGGGGGGGTCCAGAGGAGGTGCCCGGGCCAGCGCTTCGCCATGTGCTGTGCACCCG
CCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTCCTGTGGGGCCAA
                                                                                                                                 CAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTGGAGCACTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCTGCACACCGTCCCTCTCCCCGGACAAGCCCAGGACACTCCTTTGCTGCCTTTGCTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCTTGCATAAGCCTCAGGCCTGGCCCTTTCACCCCTTTCCCACCACCACCTCTCTGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTTTCAGAAAGATGAAGAAAACATGTCTGTGAACTTGATGTTCGTGGGATGTTTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCTCCTCCCTCCGCTAAGGCTTCCGGCTGAGCTGTGCCAGCTGCTTCTGCCCACCCCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGACCTCTGGGGGGTTGTTGGGAGGAGGGGCCCGGCTGGGCCCGAGGGTCCCAAGGCGTG
                                                                                            credecrercascererecrererererererereseaceaceaceceeeeeeerrese
                                                                                                                                                                       CAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTGGAGCACTGCTG
                                                                                                                                                                                                            GAAGTGAGTGGCCCACCAGAGCCTCCCTCAGCCACGCCTCTCTCAGCCCAGGTCTCCTGG
                                                                                                                                                                                                                                                 GAAGTGAGTGGCCCACCAGAGCCTCCCTCAGCCACGCCTCTCTCAGCCCAGGTCTCCTGG
                                                                                                                                                                                                                                                                                   GCATCTGGCCCTGCTGCCCCCTACCCGGCTCGTTCCCCCCAGGGGTGAGCCCCCGCGTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGCTCCACCGGGGGGGGGCAGTCTGGAGGTCCCAGACATGCTGCCCACCCCCTGCTGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGCTCCACC - GGGAGGGACAGTCTGGAGGTCCCAGCATGCTGCCCACCCCCTGCTGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGGCTTCCTGCCCTAGCAGTTTGCCTCTGCACGTGCACACACCTGCACACCCCTGCACAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCTGCACACGCTCCCTCTCCCCGGACAAGCCCCAGGACACTGCCTTTGCTGCCTTCTGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCTTGCATAAGCCTCAGGCCTGGCCCTTTCACCCCTCTTCCCACCAACTCTCTGCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTTTCAGAAAGATGAAGAAGAAAAACATGTCTGTGAACTTGATGTTCCTGGGGATGTTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAAGAGAGACAAAATTGCTGAGGAGCTCAGGGCTGGATTGGCAGGTGTGGGCTCCCACGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAAGAGAGACAAAAATTGCTGAGGAGCTCAGGGCTGGATTGGCAGGTGTGGGCTCCCACGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCTGGGCTCACCACCAGCCCTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTTGCTCACCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAAAAGTGTCAAGGGCCCCTAGGAACCTCGAAGCTGTTCTCTGCTTT
                                                         1510
                                                                                            1503
                                                                                                                                   1570
                                                                                                                                                                   1563
                                                                                                                                                                                                          1630
                                                                                                                                                                                                                                               1623
                                                                                                                                                                                                                                                                                                                      1683
                                                                                                                                                                                                                                                                                                                                                                                               1743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1870
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1930
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2462
                       1443
                                                                                                                                                                                                                                                                                 1690
                                                                                                                                                                                                                                                                                                                                                           1750
                                                                                                                                                                                                                                                                                                                                                                                                                                  1810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2530
                                                                                        g
                                                                                                                                                          셤
                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                              Ωp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                       ò
                                                                                                                             ठे
                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                      8
```

8 8 8 8 8 8 8 8 8 8 8 8

	RESULT 9 US-09-165-543-4 US-09-165-543-4 Sequence 4, Application US/09165543 Sequence 4, Application US/09165543 Sequence 1, Application US/09165543 Sequence 1 NORMATION: GENERAL INCORMATION: MUSCALINIC MAINTENANCE AND AD GOOGGARI and Sandra Glucksman TITLE OF INVENTION: MUSCALESPONDENCE ADBRESS: ADDRESSEE: LAHIVE & COCKFIELD, ILLP STREET: 28 State Street CITY: Boston STREET: 28 State Street CITY: Boston STATE: NORMOTER READABLE FORM: MEDIUM TYPE: Flopy disk COMMUTRY: USA SOFTWARE: IBM PC Compatible COMPUTRY: IBM PC Compatible SOFTWARE: Bate-ILR Release #1.0, Version #1.25 COMPUTRY: BATE COMPU
139 TGACACGCGGCGGCAGTGCGGAAGATGCTGCTGTGTGTGCTCTCTGCTGTA 798 1 1 1 1 1 1 1 1 1	1279 GGCCTCCCAGGCCTCGAGAAGCGCATGAAGATGCTCCCAGAGCTTCACCCAGCG 1338 139 CTTTCGGCTCTCCTCGGGACAGAAGCGCATGAGATGCTCCCAGAGCTTCACCCAGCG 115 139 CTTTCGGCTGTCTCGGGACAGGAAGTGGCCAGCTCGCTCACCTGTGAGCATCTT 1398 119 TGGGCTGTCTCGGGACAGGAAGTGGCCAGTCGCTGGCCGTCATCGTGAGCATCTT 1398 119 TGGGCTGTCTCGGGACAGGAAAGTGGCCAGTCGCTGGCCGTCATCGTGAGCATCTT 1398 119 TGGGCTCTTCTCGGGACAGAAAGTGGCCAGTCGCTGGCCGTCATCGTGAGCATCTT 1398 110 CTTTCGGCTGTTCTCGGGACAGAAAGTGGCCAGTCGTGGCCGTCATCGTGAGCATCTT 1398 111 CTTTCGGCTGTTCTCGGGACAGAAGTGGCCAGTCGTGGCCGTCATCGTGAGCATCTT 1398 112 CTTTCGGCTGTTCTCGGGACAGAAGTGGCCAGTCATCGGCCGCTCATCGTGAGCCATCTT 1398 113 TGGGCTCTTGTTGTGGCACACAGTCGCTGATCATCGGCCGCTCATCGGCTGT 1398 114 CTTTCGGCTCTTGTGCTCTTGTGCCACACTCTTTGGCCTGGGCCGTCATCTTGGCT 1518 115 CTTCGCTCCTCTACCTTTGTGCCACACTCTTTTGGCTTGTGGCCATGTTTTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGT

1439 1020 1496 1077 1137 1616 1197 1257 1736 1317 1796 1377 1856 1437 1916 1497 1976 1557 2036 1617 2096 1677

```
TTTGAGTGGGCAGCCGGAGCGTGGGCGCGGGCCCTGGTCCATGCTCCGCTCCAAATGCCAT 2215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCCCGCCGTGTCTGTGGCCCTCTTAATG------CCACGGCAGCCACCCT 1783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCTGTGGGCCAACTCGGCCGTCAACCCCGTCTTAACCCACTGTGCCACTACAGCTTCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  edaccacriccriccadricaccae-crecccaccerrereacceaccaccerrera
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAGGICTCCTGGGCATCTGGCCCTGCTGCCCCTACCGGGCTCGTTCCCCCAGGGGTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGTTCTTCCCAAAGCAAGCACCTGGGTGTGCTCCAGGCTTCCTGCC-------CT
                                                    CAAGAGGGGTCCAAGCCGTCGGCGTCCTCGGCCTCGCTGGAGAGCGCATGAAGATGGT
                                                                                                                                                                                                                                                                                GTCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCT
                                                                                                                                                                                                                                                                                                                                                                                                      CCTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTGTGCCCACCACCACCTTCCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGAGCCTTCACCAAGCTCCTCTGCCCCCAGAAGCTCAAGGTCCAGCCCCACCTCCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gecedecercriagareareaceecacagragearagearageageregecaagageee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TAGTTGGTGGAGCTAGAGTGTGCTGTGCTCTGCCGCCACATTCTCCTTCACCACACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGACATGCTGCCCAC-----CCCCTGCTGCTGCCCACCCTTCGCAGTTACTGGTTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGCAT
                GCCTCCACCCTCGAGTTCTTCACGCCCTTCCTCAGCGTTACCTTCTTCAACCTCAGCAT
                                        CTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCCGG
                                                                                                  cecagaacececeacagardeceadeceredecacerecagerececeeerecredes
                                                                                                                                                                                                   GGCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGCCACTGAGAGGCCGCGCTCACT
                                                                                                                                                                                                                                                    GTCCCAGAGCATCACCCAGCGCTTCCGGCTGTCGCGGACAAGAAGAGGTGGCCAAGTTGGCT
                                                                                                                                                                                                                                                                                                                        GGCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCAT
                                                                                                                                                                                                                                                                                                                                  CCGAGCTGCTTGCCATGCCGCTGCATCCCCGATTACTGGTACGAGACGTCCTTCTGGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                            COGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCATGGAGGCGCCTTCCTGGGTTGGCCAGAGGGCCCCTCACTGGCT-GGACTGGAGGCT
                                                                                                                     CTGCTGGCAGAAGGGGCACGGGGGGAGGCCATGCCGCTGCACAGGTATGGGGTGAGGC
                                                                                                                                                            Ġaagaġaċaarċċaġgagrċċcaggcarġcċrrċcaċcracacaċacacacacaċa
                     1380
                                                                                                                                                                                                                                                             1737
                                                                                                                                                                                                                                                                                                                                                                                  1917
                                                                                                                                                                                                                                                                                                                                                                                                                         1977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1956
                                                            1440
                                                                                                   1497
                                                                                                                                        1557
                                                                                                                                                             1138
                                                                                                                                                                                                                                           1258
                                                                                                                                                                                                                                                                                 1318
                                                                                                                                                                                                                                                                                                                         1378
                                                                                                                                                                                                                                                                                                                                            1857
                                                                                                                                                                                                                                                                                                                                                              1438
                                                                                                                                                                                                                                                                                                                                                                                                      1498
                                                                                                                                                                                                                                                                                                                                                                                                                                              1558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                2037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2276
   901
                                         961
                                                                               1021
                                                                                                                       1078
                                                                                                                                                                                                    1198
                                                                                                                                                                                                                                                                                                     1797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1843
                                                                         ð
                                                                                               셤
                                                                                                              8 6
                                                                                                                                                       8 8
                                                                                                                                                                                             8 6
                                                                                                                                                                                                                                      8 8 8
                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                    8 è
                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                           8 6 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       상
음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8 8
                 셤
                                        8
                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTACAGGGCCCAGCAGGGGGAGACAGGCCGTTCGGAAGATGGCACTGGTGGGT 1259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1379
                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                   540
                                                                                                                                                                      126
                                                                                                                                                                                          600
                                                                                                                                                                                                             180
                                                                                                                                                                                                                                629
                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                       719
                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                              779
                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                     839
                                                                                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                            899
                                                                                                                                                                                                                                                                                                                                                                                                                                  959
                                                                                                                                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          840
                                                                                                                                73
                                                                                                                                                                     1020 CCTCGTGGGTGCCTTCTGCATCCCATGTACGTACCCTATGTGCTGACCGCCGTTGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGACTACTACTACTGTGTGCCTCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCTGGCCTTCCTGCTGTGTTGGGCCTGCCATCCTGAGTTGGGAGTACCTGTCTGGTGGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gerecaccacecacecaecaecaecragaecr-caecrrrecrerecrecaecaece
                                                                                                                                                                                                             -----GCTCTGGCCCCCGGCCCCCGGGACCATGCGCTGGGCGCCCCCAGGGGAA
                                                                                                                                                                                                                                                    ACCCGACCCGGCCAAAGGCCCCGCAAAGACGAGGCTCCCGGGGCCGGGGCCCTCCCGGGCCG
                                                                                                                                                                                                                                                                 cccaectrceecceeccrecccceeques
                                                                                                                                                                                                                                                                                                       CCCAGCTCTCCGCCCCTGCCCCGGTGTCCCCCGAGCCGTGTGAGCCTGCTGGGCCTAT
                                                                                                                                                                                                                                                                                                                                              GGCGCTGCTCATCGTGGCCACGGTGCTGGCAACGCGCTGGTCATGCTCGCCTTCGTGGC.
                                                                                                                                                                                                                                                                                                                                                                                                                                   Geoecrecricardeccacacacrastacrassearcacacrastratecrastratecrassearcardec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCTACGTGCTGACAGGCCGCTGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGCAG
                                                                                                                               GGCTGCACGGTCGCACCGGCAGCGCTCAGGCTCCGGCTCCTCTCCCGGCTGCAGCAGCCG
                                                                                                                                                                                                                                                                                                                                  CTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATACCGGGCCCAGCAGGGTGACACGCGGCGGCCAGTGCGGAAGATGCTGCTGGTGGGT
                                                                                                             Gaps
                                                                                                            79;
                                                                                        Length 3244;
                                                                                                            Indels
                                                                                        Score 1384.8; DB 3;
Pred. No. 1.2e-258;
0; Mismatches 632;
                                                                                        51.3%;
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: CDNA
PEATURE:
                                                                                         Query Match 51.3
Best Local Similarity 74.2
Matches 2043; Conservative
                                                  CDS
778..2112
                                                NAME/KEY:
COCATION:
US-09-165-543-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1320
                                                                                                                                14
                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                     780
                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                             840
                                                                                                                                                                                                                                                                                                                                                                                                                                  900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1260
                                                                                                                                                    482
                                                                                                                                                                      74
                                                                                                                                                                                                             127
                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                       99
                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                요
                                                                                                                                                                                      g
                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                         සු
                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                        음 성
                                                                                                                                                                                                                                                                                                                                                                                                                                                 8 &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8 & 8 & 8 &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             6 B 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ያ ያ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                δ
                                                                                                                                                                     ઠે
                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                 음 &
                                                                                                                                                                                                                                                                                                                                 ઠ
                                                                                                                                                                                                                                                                                                                                                                  õ
```

2275 1842 2335

ö

Gaps

330

302

390

362 450 422

```
423 CAACGCGCTGGTCATGCTCGCCTTCGTGGCCGACTCGAGCCTCCGCACCCAGAACAACTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTCCTGCTCAACCTCGCCATCTCCGACTTCCTCGTCGCCCTTCTGCATCCCACTGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCTGAGCTGGGAGTACCTGTCCGGGGGCAGCTCCATCCCCGAGGGCCACTGCTATGCCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GITCTICIACAACIGGIACTICCICAICACGGCIICCACCCIGGAGIICTIACGCCCTI
                                                                                                                                                                                                                                                                                                                  243 recedadecederasacerecedesecerrasadesecedecedecedecedesecederas
                                                                                                                                                                                                                                                                                                                                                 AGCCTGGACCGCGGTGCTGGCCGCGCTCTAGGCGCTGCTCATCGTGGCCACGGTGCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTTCCTGCTCAACCTCGCCATCTCCGACTTCCTCGTCGGCGCCCTTCTGCATCCCACTGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGTACCCTACGTGCTGACAGGCCGCTGGACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGTACCCTACGTGCTGACAGGCCGCTGGACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGTAGTGGGACTACCTGCTGCTCCTCCTCCTTCAACATCGTGCTCATCATCATCGTGCTACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCGCTTCCTGTCGGTCACCCGAGCGGTCTCATACCGGGCCCAGCAGGGTGACACGCGGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCGCTTCCTGTCGGTCACCCCGAGCGGTCTCATACCGGGCCCAGCAGGGTGACACGCGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCTGAGCTGGGGGTCCTGTCCGGGGGCAGCTCCATCCCCGAGGGCCACTGCTATGCCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTCAGGGTCACCTTCTTAACCTCAGCATCTACCTGAACATCCAGAGGGGGCACCCGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCGGCTGGATGGGGCTCGAGAGCCAGCCCCCGAGCCCCCCTCCCGAGGCCCCAGCCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCGGCTGGATGGGGCTCGAGAGGCAGCCGGCCCCGAGCCCCCTCCCGAGGCCCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCACCCCACCGCCTGGCTGCTGGGCTGCTGGCAGAAGGGGCCACGGGGAGGCCATGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGCCTGGACCGCGGTGCTGGCGCGCTCATGGCGCTGCTCATCGTGGCCACGGTGCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAACGCGCTGGTCATGCTCGCCTTCGTGGCCGACTCGAGCCTCCGCACCACAACTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGTAGTGGACTACCTGCTGCACCTCCTCTGCCTTCAACATCGTGCTCATCAGCTACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTTCTTCTACAACTGGTACTTCCTCATCACGGCTTCCACCCTGGAGTTCTTTACGCCCTT
                                                                                                                                                                                                                   Length 2050;
                                                                                                                                                                                                                                                   ô
                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                    DB 4;
                                                                                                                                                                                                                   50.4%; Score 1360.4; DB 4, 99.9%; Pred. No. 5.5e-254; ive 0; Mismatches 1;
PRIOR APPLICATION NUMBER: JP 11/145661
PRIOR FILING DATE: 1999-05-25
NUMBER DE SEQ ID NOS: 26
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 21
LENGTH: 2050
LYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                    Best Local Similarity 99.3
Matches 1361; Conservative
                                                                                                                                               ; NAME/KEY: CDS
; LOCATION: (271)...(1629)
US-09-891-053-21
                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1023
                                                                                                                                                                                                                                                                                                                                                    331
                                                                                                                                                                                                                                                                                                                                                                                                                                                  363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                903
                                                                                                                                                                                                                    Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                   391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                931
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1051
                                                                                                                                    FEATURE
                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                   ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                    2063
                                                                                                                     2123
                                                                                                                                                                                                                                                                                                                    2300
                                                                                                                                                                                                                                                                                                                                                                                   2360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3170
2183
                                                                                                                                                                                                     2636 AGAGCCTGGCTCCTTATCCCCCACTCTCCA--CTCTGCCCCACAAGTGTCGAGC 2693
                                                                                                                                                                                                                                                                                                                                                                                                                   2871
                                                                                                                                                                                                                                                                                                                                                                                                                                                    2417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2588
                                                                                                                                                2576 crcrcrcccadagadecradedacearecerrrecraceacrererererrecradadas
                                                                                                                                                                                                                                                                    2694 GCCTCGGGAAACTTGAAGCTTCTCTGCTCC--TTCCACTCTGGATGTTTTCAGGAAGATG 2751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2992 TATGGGGTAGAGCGGCTCTTCACTGTGCCCTAAAGGTCCTGAGGCTCACAGGACAGTCAG 3051
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3052 CAGGAGAGCAGGCAGGCCCGCGACACCTGGGAAGGATGCTTTGCCTCGTCCTGTGTACTC 3111
                                                                                                                                                                                                                                                                                                                                     2752 GAGGAGAAAAAACACGCCTGTGAACTTGATGTTCCTTGGATGTTTAATCAAGAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                      AAATTGCCGAGGAGCTCGGGGCTGGATTGGCAGGTGTGGGCTCCCACGCCCTCCTCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2064 CCTCTCCCCGGACAAGCCCAGGACACTGCCTTTGCTGCCTTCTGCTTGCATAAGCCT
                                                                                                                                                                                  2124 CAGGCCTGGCCCTTTCACCCCTCTCCCACCAACTCTCTGCCCCCAAAAGTGTCAAGG
                                                                                                                                                                                                                                                 GGCCCTAGGAACCTCGAAGCTGTTCTCTGCTTTTCCATTCTGGGTGTTTTCAGAAAGAT-
                                                                                                                                                                                                                                                                                                                                                                                   AAATTGCTGAGGAGCTCAGGGCTGGATTGGCAGGTGTGGGCTCCCACGCCCTCCTCCTCCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                  --CGCTAAGGCTTCCGGCTGAGCTGTGCCAGCTGCTTCTGCCCACCCCGCCTCTGGGCT-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2418 --CACACCAGCCCTGGTGGCCAAGCCTGCCCCGGCCACTCTGTTTGCTCACCCAGGACCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2932 gegacgaregecerrectrectrecererreracaareagaarregegegeger
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2476 CTGGGGGTTGTTGGG----AGGAGGGGCCCGGCTGGGCCCCGAGGGTCCCAAGGCGTGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2533 GGGCGG----TCCAGAGGAGGTGCCCGGGCAGGGGCCGCTTCGCCATGTGCTGTACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2589 GTGCCACGCGCTCTGCATGCTCTTCTGCCTGTG---CCCGCTGCGCTTGCCCTGCAAACCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2004 AGCAGITIGCCICTGCACGIGCACACACCTGCACACCCTGCACACACCTGCACACCGIC
                                                                                                                                                                                                                                                                                                                    --GAAGAAGAAAACATGTCTGTGAACTTGATGTTCGTGGGATGTTTAATCAAGAGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 21, Application US/09891053
; Sequence 21, Application US/09891053
; Patent No. 6750322
; GENERAL INFORMATION:
APPLICANT: Itadani, Hiraku
APPLICANT: Takimura, Takao
APPLICANT: Takamura, Takao
APPLICANT: Tanaka, Kenichi
APPLICANT: Tanaka, Kenichi
APPLICANT: Tanaka, Kenichi
APPLICANT: Tanaka, Kenichi
APPLICANT: Hidaka, Yusuke
APPLICANT: Hidaka, Yusuke
ITILE OF INVENTION: BINDING PROTEIN-COUPLED RECEPTOR PROTEINS
FILE REPERENCE: 66501-08301
CURRENT APPLICATION NUMBER: US/09/891,053
CURRENT FILING DATE: 1999-12-24
PRIOR FILING DATE: 1999-12-24
PRIOR FILING DATE: 1999-12-24
; PRIOR FILING DATE: 1999-12-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-891-053-21
                                                                                                                                                                                                                                                   2184
                                                                                                                                                                                                                                                                                                                  2243
                                                                                                                                                                                                                                                                                                                                                                                   2301
                                                                                                                                                                                                                                                                                                                                                                                                                 2812
                                                                                                                                                                                                                                                                                                                                                                                                                                                  2361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2646
                                                   ò
                                                                              d
                                                                                                              B &
                                                                                                                                                                          ò
                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                           ద
                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
```

482

570 542 630

602 690 662 750

722

810

782

870 842 930 902 990 962

510

1050 1022

8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6 8 6

419 ATGGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTG 478	479 GCCGACTCGAGCCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC 538	539 TTCCTCGTCGGCGCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG 598 [599 ACCTTCGGCCGGGGCTCTGCAAGCTGTGGTGGTGGACTACTGCTGTGTGCACCTCC 658	659 TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCCGCTCGAGCGGTC 718	719 TCATACCGGGCCCAGCAGGGTGACACGCGGGGCAGTGCGGAAGATGCTGCTGGTGG 778	779 GIGCTGGCCTTCCTGCTGTACGACCACCATCCTGAGCTGGAGTACCTGTCCGGGGGC 838	839 AGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC 898	899 ACGGTTCCACCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC 958	959 ATCTACCTGAACATCCAGAGGCGCACCCGCCTCGGTGGAGGCTCGAGAGGCAGCC 1018	1019 GGCCCGAGCCCCTCCCGAGGCCCAGCCTCACCACCCCCCCTGGCTGCTGGGGC 1078	1079 TGCTGGCAGAAGGGGCACGGGGGGCCATGCCGCTGCACAGGTATGGGGTGGCTGGC	1139 GCCGTAGGCGCTGAGGCCGGGGAGGCGACCCTCGGGGGTGGCGGTGGCGGCGGCGGCTCCGTG 1198	1199 GCTTCACCCACCTCCAGCTCCGCAGGGGCACTGAGAGGCCGCGCTCACT 1258	1259 AAGAGGGGTCCAAGCCGTCGGCGTCTCGGCTCGCTGGAAAGCGCATGAAGATGGTG 1318 	1319 TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG 1378 	1379 GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATC 1438	1439 CGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAACCTCCTTCTGGCTC 1498
දි සි	<u>\$</u> 8	දු පු	\$ g	දු පු	상 원	දු පු	상 원	දු පු	& 8	දු පු	දු අ	è 8	è 8	è 9	65 dg	상 염	\$ B \$
1111 GCTGCACAGGTATGGGGTGAGGGGGCCGTAGGCGCTGAGGCCGGGGAGGCGACCCT 1170	1171 CGGGGGTGGCGGCGCCCCCGTGGCTTCACCCACCTCCAGGCTCCGGCAGCTCCTC 1230	1231 GAGGGGCACTGAGAGGCCGCGCTCACTCAAGAGGGCCTCCAAGCCGTCGCGTCCTCGGC 1290	1291 CTCGCTGGAGÀAGCGCATGAAGATGGTGTCCCAGAGCTTCACCCGGGGGTTTGGGCTGTC 1350	1351 TCGGGACAGGAAAGTGGCCAAGTCGCTGGCCGTCATCGTGAGCATCTTTGGGCTCTGCTG 1410	1411 GGCCCATACACGCTGCTGATGATCATCCGGGCCGCCTGCCATGGCCACTGCGTCCCTGA 1470	1471 CTACTGGTACGAAACCTCCTTCTGGCTCCTGTGGGCCAACTCGGCTGTCACCCTGTCCT 1530 	1531 CTACCCTCTGTGCCACCACAGCTTCCGCGGGCCTTCACCAAGCTGCTCTGCCCCCAGAA 1590	1591 GCTCAAAATCCAGCCCCACAGCTCCCTGGAGCACTGCTGGAA 1632 	LT 11 9-167-354-6	duence o, Application 05/0910/354A tent No. 6136559 NERAL INFORMATION: PPLICANT: Lovenberg, Timothy	FFILCANT: Elgangel, Main PPLICANT: Pyati, Agnabree PPLICANT: Huvar, Arne ITLE OF INVENTION: DNA ENCODING A HUMAN HISTAMINE RECEPTOR OF THE H3	17LE OF TNEWNION: SUBTIVE TILE OF THE WASHINGS: JWW TURRENT APPLICATION NUMBER: US/09/167,354A THING DATE: 1998-10-07	UMBER OF SEQ ID NOS: 8 OFTWARRE Patentin Ver. 2.0 Q ID NO 6 ILBNOTH: 1335	Jares: Dna ORGANISM: Artificial Sequence FEATURE: OTHER INFORMATION: Description of Artificial Sequence:CDNA	335;	Indels 0; daps 366666677666 3	1 Algements of the control of the co

8 6 6 6

Mon Jun

ò g 8 8

ò g 8 g ò 엄 ò a 8 g ò g ò g ò

```
1318
                                                                                                                                                                                                   1020
                                                                                                                                                                                                                                   1378
                                                                                                                                                                                                                                                                                                  1438
                                                                                                                                                                                                                                                                                                                                                                   1498
                                                                                                                                                                                                                                                                                                                                                                                                                                    1558
                                                                                                   GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCCACTGAGAGGCCGCGCTCACTC 1258
                                                                                                                                                                                                                                                                    1021 TCCCAGAGCTTCACCCAGGGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG 1080
                                                                                                                                                                                                                                                                                                                                 1081 GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                                                                                                                                    1141 CGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTC 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1201 CTGTGGGCCAACTCGGCTGTCAACCCTGTCTACCCTCTGTGCCACCACACATCCGC 1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG 1618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     960
     AAGAGGGGTCCAAGCCGTCGGCGTCCTCGCTCGCTGGAGAAGCGCATGAAGATGGTG
                                                                                                                                                                                          961 AAGAGGGCTCCAAGCCGTCGCGTCCTCGCCTCGCTGGAGAAGCGCATGAAGATGGTG
                                                     GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGCACTGAGAGGCCGCGCTCACTC
                                                                                                                                                                                                                                     TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAAAGTGGCCAAGTCGCTG
                                                                                                                                                                                                                                                                                                    GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGCCCCCATACACGCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCACACCTTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 3, Application US/08985090
Patent No. 5885893
GENERAL INPORMATION:
APPLICANT: ACCEPTORS AND USES THEREFOR NUMBER OF SEQUENCES: 28
CORRESPONDENCE ADDRESS:
ADDRESSER: LAHIVE & COCKFIELD, LLP
STREET: 28 State Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/985,090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MNI-032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Jean M. Silveri
RECISTRATION NUMBER: 39,030
REFERENCE/DOCKET NUMBER: MNI-CIECOMMUNICATION INFORMATION:
TELEPHONE: (617)227-7400
TELEPHONE: (617)742-4214
INFORMATION FOR SEQ ID NO: 3:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1619 GAGCACTGCTGGAAG 1633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1321 GAGCACTGCTGGAAG 1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CITY: Boston
STATE: Massachusetts
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION DATA: APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       02109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-985-090-3
                                     1139
                                                                                                    1199
                                                                                                                                     106
                                                                                                                                                                     1259
                                                                                                                                                                                                                                     1319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1559
                                                                                                                                                                                                                                                                                                    1379
                                                                                                                                                                                                                                                                                                                                                                     1439
                                                                                                                                                                                                                                                                                                                                                                                                                                    1499
                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                               임
                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                    셤
                                                                                                 ò
                                                                                                                                용
                                                                                                                                                                    ò
                                                                                                                                                                                             유
                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGCTGGCAGAAGGGGCACGGGGAGGCCATGCCGCTGCACAGGTATGGGGTGAGGCG 1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        780
                                                                                                                                                                                                                                                                                                                                                                                    418
                                                                                                                                                                                                                                                                                                                                                                                                       478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGGGGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    541 AGCTCCATCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        958
                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTCCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCTACGTGCTGACGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCCGAGCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCATACCGGGCCCAGGAGGTGACACGCGGCGGCAGTGCCGAAGATGCTGCTGGTGGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GIGCIGGCCTICCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601 ACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GECCCCGAGCCCCCTCCCGAGGCCCACCCTCACCCACCCCCACCCCACCCTGGCTGCTGGGGC
                                                                                                                                                                                                                                                                                                                                        ATGCCGCTGCTCATCGTGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCCGACTCGAGCCTCCGCACCACAACTTCTTCCTGCTCAACTCGCCATCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCCGACTCGAGCCTCCGCACCCAGAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTCCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCTTCGGCCCGGGCCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGTGTTGTTGTTTTCTTGCTGTGCACTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCATACCGGGCCCAGCAGGGTGACACGCGGCGGCGGCAGGTGCGGAAGATGCTGCTGGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGCTCCATCCCCGAGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Archaecigaacarceagagecaccecerecageragareagecreaagagecagec
                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                    Length 1335;
                                                                                                                                                                                                 ; OTHER INFORMATION: Description of Artificial Sequence: CDNA US-09-642-514-6
                                                                                                                                                                                                                                                                                   0; Indels
                                                                                                                                                                                                                                                 Query Match 49.5%; Score 1335; DB 3; L
Best Local Similarity 100.0%; Pred. No. 4.1e-249;
Matches 1335; Conservative 0; Mismatches 0;
FILE REFERENCE: ORT1290
CURRENT APPLICATION NUMBER: US/09/642,514
CURRENT FILING DATE: 2000-08-21
FRIOR APPLICATION NUMBER: US 09/167,354
FRIOR FILING DATE: 1998-10-06
NUMBER OF SEQ ID NOS: 8
SOFTWARE: PatentIn Ver. 2.0
SOFTWARE: 1335
                                                                                                                                                    TYPE: DNA ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1079
                                                                                                                                                                                                                                                                                                                                                                                    359
                                                                                                                                                                                                                                                                                                                                                                                                                   19
                                                                                                                                                                                                                                                                                                                                                                                                                                                    419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                     FEATURE:
                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                   ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠ
                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                     ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
```

1258

1378

1080 1438 1140 1498 1558 1260

1320

1020

g

임

ò

g ò g ò 셤 ò 셤 ò g ò g ò g ò g ò g ò g ò g 8 셤

ò

```
1141 CGGGCCGCCTGCCATGCGTCCTGACTACTGGTACGAAACCTCCTTCTGGCTC 1200
         841 GCCGTAGGCGCTGAGGCCGGGGAGGCGACCCTCGGGGGTGGCGGTGGGGGGCGCTCCGTG 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1081 GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1201 CTGTGGGCCAACTCGGCTGTCAACCCTGTACCCTCTGTGCCACCACGTTCCGC
                                                                                                                                                                                                                     1021 TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGAAAGTGGCCAAGTCGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1261 CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG
                                                                                                 AAGAGGGCTCCAAGCCGTCGGCGTCCTCGGCCTGGAGAAAAGAGGAAAGATGGTG
                                                                                                                                                                                                                                                                                                        TCCCAGAGCTTCACCCAGCGCTTTCGGCTGTCTCGGGACAGGAGAAGTGGCCAAGTCGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                        GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCCATACACGCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGGGCCGCCTGCCATGGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTC
                                                                      GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCTCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACCACCACGCTTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGGGCCTTCACCAAGCTGCTCTGCCCCCAGAAGCTCAAAATCCAGCCCCACAGCTCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
APPLICANT: Andrew D.J. Goodearl and Sandra Glucksman
APPLICANT: Andrew D.J. Goodearl and Sandra Glucksman
TITLE OF INVENTION: MUSCARING: Receptors and Uses Therefor
NUMBER OF SEQUENCES: 39
CORRESPONDENCE ADDRESS:
CARRESPONDENCE ADDRESS:
CARRESPONDENCE ADDRESS:
STREET: 28 State Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOUTHWEEL PATENT: FULDUS/MS-DOS
SOUTHWEEL PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/165,543
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/042,780
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME:

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 15
108-09-165-543-3
Sequence 3, Application US/09165543
Patent No. 6093545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1619 GAGCACTGCTGGAAG 1633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INFORMATION FOR SEQ ID NO: 3: SEQUENCE CHARACTERISTICS: LENGTH: 1335 base pairs TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CITY: Boston
STATE: Massachusetts
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              02109
                                                                                                                                                                                       1259
                                                                                                                                                                                                                                                 961
                                                                                                                                                                                                                                                                                                        1319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1559
                                                                      1199
                                                                                                                                                                                                                                                                                                                                                                                                                        1379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1439
                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                    Š
                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCCGTAGGCGCTGAGGCCGGGAGGCGACCTCGGGGGTGGCGGTGGGGGGCGCTCCGTG 1198
                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGCCCCCGAGCCCCCTCCCGAGGCCCCAGCCCTCACCACCCCCACCGCCTGGCTGCTGGGGGC 1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 GCGGCGGCGGGGCGCGCGCGCTTCTCGGCAGCCTGGGACCGCGGTGCTGGCCGCGCTC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCGTCGTCGCCTTCGTG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCCGACTCGAGCCTCCGCACCCAGAACAACTTCTTCCTGCTCAACCTGGCCATCTCGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241 TICCTCGTCGGCGCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGAACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421 TCATACCGGGCCCAGCAGGGTGACACGCGGCGGCGGCAGTGCGGAAGATGCTGCTGCTGCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          541 AGCTCCCATCCCCGAGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         899 ACGGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCAGCGTCACCTTCTTTAACCTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           601 ACGCTTCCACCCTGGAGTTCTTTACGCCCTTCCTCACGCTCACCTTCTTTAACCTCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          959 ATCTACCTGAACATCCAGAGGGGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661 ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGGGGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATGGCGCTGCTCATCGTGGCCACGGTGCTGGGCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCCGACTCGAGCCTCCCCACACAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTCCTCGTCGCCCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTAGTGGACTACCTGCTGTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rerecerreacareareareareaceraceaceeerrecereresereaceeaceere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCATACCGGGCCCAGCAGGGTGACACGCGGCGCGGCAGTGCGGAAGATGCTGGTGGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481 GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGCTCCATCCCCGAGGGCCACTGCTATGCCGAGTTCTTCTACAACTGGTACTTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1079 TGCTGGCAGAAGGGGCCACGGGGCCCATGCCGCTGCACAGGTATGGGGTGAGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         299 ATGGAGCGCGCCGCCCCCGACGGCCGCTGAACGCTTCGGGGGGCGCTGGCGGCGATGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                Score 1331.8; DB 2; Length 1335;
Pred. No. 1.7e-248;
0; Mismatches 2; Indels 0;
                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 99.9%;
Matches 1333; Conservative
SEQUENCE CHARACTERISTICS:
LENGTH: 1315 base pairs
TYPE: nucleic acid
STRANDENNESS: single
TOPOLOGY: linear
                                                                                                                          TOPOLOGY: linear MOLECULE TYPE: CDNA
                                                                                                                                                                                                               ; NAME/KEY: CDS
; LOCATION: 1..1335
US-08-985-090-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                       FEATURE
```

```
Search completed: June 2, 2005, 14:45:48
Job time : 452.596 secs
                                          196
                                                                          1021
                                                                                                                                                                            1201
                          1259
                                                           1319
                                                                                          1379
                                                                                                                            1439
                                                                                                                                                             1499
                                                                                                                                                                                                                              1619
          901
                                    සු දු
                                                                      8 à
                                                                                                      g
                                                                                                                     8
                                                                                                                                        g
                                                                                                                                                      දු පු
                                                                                                                                                                                                            요
                          ઠે
                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1198
                                                                                                                                                                                                                                     598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1199 GCTTCACCCACCTCCAGCTCCGGCAGCTCCTCGAGGGGCACTGAGAGGCCGCGCGCTCACTC 1258
                                                                                                                                   418
                                                                                                                                                   120
                                                                                                                                                                     478
                                                                                                                                                                                    180
                                                                                                                                                                                                     538
                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                      658
                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                       718
                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                         778
                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                         838
                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                          888
                                                                                                                                                                                                                                                                                                                                                                                                                          900
                                                                                                                                                                                                                                                                                                                                                                                                                                           928
                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              840
                                                                                                                  9
                                                                                                                                  GCGACTGGAGCCTCGGCACCCAGAACATCTTCCTGCTCACCTCGCCATCTCCGAC
                                                                                                                                                                                                                                               TTCCTCGTCGGCGCCCTTCTGCATCCCACTGTATGTACCCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                         GCCGACTCGAGCCTCCGCACCAGAACAACTTCTTCCTGCTCAACCTCGCCATCTCCGAC
                                                                                                                                                                                                                                      TTCCTCGTCGCCCCTTCTGCATCCCACTGTATGTACCTACGTGCTGACAGGCCGCTGG
                                                                                                                                                                                                                                                                      ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGCTGGTGGACTACCTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                ACCTTCGGCCGGGGCCTCTGCAAGCTGTGGTGTGTGTGTACTACTGCTGTGCACCTCC
                                                                                                                                                                                                                                                                                                                TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGGGCGTC
                                                                                                                                                                                                                                                                                                                                                  TCATACCGGGCCCAGCAGGTGACACGCGGCGGCAGTGCGGAAGATGCTGCTGGTGGG
                                                                                                                                                                                                                                                                                                                                                                        GTGCTGGCTTCTGCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                  GTGCTGGCCTTCCTGCTGTACGGACCAGCCATCCTGAGCTGGGAGTACCTGTCCGGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCCGTAAGGCGCTGAAGGCCGGGGAGCCACCCTCGGGGGTGGCGGTGGGGGCGCTCCGTG
                                                                                                 ATGCCCTCCTCATCGTGCCACGGTGCTGGCCAACGCGCTGGTCATGCTCGCCTTCGTG
                                                                                                                                                                                                                                                                                                       TCTGCCTTCAACATCGTGCTCATCAGCTACGACCGCTTCCTGTCGGTCACCCGAGCGGTC
                                                                                                                                                                                                                                                                                                                                         TCATACCGGGCCCAGCAGGGTGACACGCGGCGGCGAGTGCGGAAGATGCTGGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATCTACCTGAACATCCAGAGGCGCACCCGCCTCCGGCTGGATGGGGCTCGAGAGGCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGCCCCGAGCCCCTCCCGAGGCCCAGCCCTCACCACCCCCACCGCCTGGTGCTGGGGC
                                                                                   Gaps
                                                                  Length 1335;
                                                                                  ö
                                                                                  Indels
                                                                 Score 1331.8; DB 3;
Pred. No. 1.7e-248;
0; Mismatches 2;
                                                                 ery Match
st Local Similarity 99.9%;
tches 1333; Conservative
single
STRANDEDNESS: sinc
TOPOLOGY: linear
MOLECULE TYPE: CDNA
                                ; NAME/KEY: CDS
; LOCATION: 1..1335
US-09-165-543-3
                                                                 Query Match
Best Local Similarity
Matches 1333; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                          601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1139
                                                                                                                                   359
                                                                                                                                                  61
                                                                                                                                                                   419
                                                                                                                                                                                                    419
                                                                                                                                                                                                                                     539
                                                                                                                                                                                                                                                                      599
                                                                                                                                                                                                                                                                                                       629
                                                                                                                                                                                                                                                                                                                                         719
                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                         779
                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                         839
                                                                                                                                                                                                                                                                                                                                                                                                                                           899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                    121
                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             721
                                                                                                              셤
                                                                                                                                                g
                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                  ઠ
                                                                                                                                  ઠે
                                                                                                                                                                 ઠે
                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ठे
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         음 장
                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                      ઠ
                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
```

```
1318
                                                                               1020
                                                                                                                                          1080
                                                                                                                                                                           1438
                                                                                                                                                                                                         1140
                                                                                                                                                                                                                                        1498
                                                                                                                                                                                                                                                                                                       1558
                                                                                                                                                                                                                                                                                                                                     1260
                                                                                                           TCCCAGAGCTTCACCCAGCGCTTCGGCTGTCTCGGGACAGGAAGTGGCCAAGTCGCTG 1378
                                                                                                                                                                                                                                                         1141 CGGCCCCTGCCATGCCACTGCGTCCCTGACTACTGGTACGAAACCTCCTTCTGGCTC 1200
                                                                                                                                                                                                                                                                                                                                                                   960
GCTTCACCCACCTCCAGCTCCGGCAGCTCCTGAGGGGCACTGAGAGGCCGCGCTCCACTC
                                            1081 GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGGCCCCATACACGCTGCTGATGATCATC
                                                                                                                           GCCGTCATCGTGAGCATCTTTGGGCTCTGCTGGCCCCCATACACCCTGCTGATGATCATC
                                                                                                                                                                                                                                                                                                      CTGTGGGCCAACTCGGCTGTCAACCCTGTACCCTCTGTGCCACACAGCTTCCGC
                                                                                                                                                                                                                                                                                                                           CTGTGGGCCAACTCGGCTGTCAACCCTGTCCTCTACCCTCTGTGCCACACACGCTTCCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                  1321 GAGCACTGCTGGAAG 1335
                                                                                                                                                                                                                                                                                                                                                                                                                                   GAGCACTGCTGGAAG 1633
```

THIS PAGE BLANK (USPTO)

12, Appl 12, Appl 5, Appli 2, Appli 6, Appli 7, Appli 16, Appli 4, Appli

Sequence Sequence Sequence Sequence

Scoring table:

Searched:

Minimum DB Maximum DB

Database

Title: Perfect score:

Seguence:

OM protein

Run on:

Sequence

Appli Appli Appli Appli Appli

Sequence Seq

Appli

Sequence Sequence

Sequence

```
ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 ADSSLRIQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181 SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GPEPPPEAQPSPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GPEPPPEAQPSPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 7, Application US/09167354A

Patent No. 6136559

GENERAL INFORMATION:
APPLICANT: Lovenberg, Timothy
APPLICANT: Erlander, Mark
APPLICANT: Huvar, Arme
TITLE OF INVENTION: SUBTYBE
TITLE OF INVENTION: SUBTYBE
PILE REFERENCE: JWW
CURRENT APPLICATION UNMBER: US/09/167,354A

CURRENT FILING DATE: 1998-10-07

NUMBER OF SEQ ID NOS: 8

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MERAPPOGPINASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 445;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence:PEPTIDE
US-09-167-354-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; Score 2361; DB 3;
; Pred. No. 3.7e-161;
0; Mismatches 0;
PCT-US93-08528-9
US-09-826-509-515
US-08-313-53-9
US-08-313-9
US-08-194-338-11
US-08-194-338-4
US-09-825-923-4
US-09-825-923-4
US-09-825-923-4
US-09-825-923-2
US-08-118-270-12
PCT-US93-08528-12
US-08-194-338-5
US-08-194-338-6
US-08-194-348-6
US-08-194-338-6
US-08-194-338-6
US-08-194-338-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                   ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 100.
Matches 445; Conservative
    LENGTH: 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-167-354-7
    523
516.5
516.5
516.5
515.5
498.5
477.5
477.5
477.5
                                                                                                                                                                                                                                              474
468.5
465.5
458.5
452
4456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 513, App
Sequence 967, App
Sequence 11, Appl
Sequence 11, Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 , Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 10930, A
                                                                                                                                                    2, 2005, 19:57:02 ; Search time 27 Seconds (without alignments) 1230.327 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 25, Sequence 1, Al Sequence 5, Al Sequence 32, Al
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 20,
Sequence 5, 1
                                                                                                                                                                                                                                                                                              445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 7,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 7,
Sequence 2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 1
                                                                                                                                                                                                                                           US-10-727-021-7
2361
1 MERAPPDGPLNASGALAGDA......LLCPQKLKIQPHSSLEHCWK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                   513545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Issued Patents AA:*

(cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
(cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
(cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
(cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
(cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
(cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
                         5.1.6
Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-167-354-7
US-09-642-855-7
US-09-642-855-7
US-09-642-855-7
US-09-165-543-2
US-09-165-543-2
US-09-165-543-2
US-09-165-543-3
US-09-165-11
US-09-131-553-7
US-08-148-270-11
US-09-186-509-513
US-09-186-509-517
US-08-118-270-11
US-09-186-509-517
                                                                                                                                                                                                                                                                                                                                                                                                                                              Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                     513545 segs, 74649064 residues
                           version 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                             protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                         Gapop 10.0 , Gapext 0.5
                           GenCore (c) 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            seq length: 0
seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4413
362
362
3351
3390
3390
4479
4479
4479
5590
5590
590
                                                Copyright
                                                                                                                                                                                                                                                                                                                                  BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               222.3
222.3
222.3
222.3
222.3
222.3
222.3
222.3
222.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
223.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
203.3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               30.7
                                                                                                                                                         June
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             30.7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .......
```

Score

Result No.

H3

ö

Gaps

ö

9 9 120

180

240 240 300

120

```
RESULT 3
US-09-642-514-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                             FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            윱
ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL 360
                             420
                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ASPISSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKWVSQSFTQRFRLSRDRKVAKSL 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361 AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                             361 AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALLMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GPEPPPEAQPSPPPPPGCWGCWGKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GPEPPPEAQPSPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL
                             AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MERAPPOGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                   \mathbb{H}
                                                                                                                                                                                                                                                                                   THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .
0
                                                                                                                                                                                                                     APPLICANT: Lovenberg, Timothy
APPLICANT: Erlander, Mark
APPLICANT: Erlander, Mark
APPLICANT: Pyati, Jayashree
APPLICANT: Huvar, Anne
TITLE OF INVENTION: DNA ENCODING A HUMAN HISTAMINE RECEPTOR OF TITLE OF INVENTION: SUBTYPE
FILE REFERENCE: JWW
CURRENT APPLICATION NUMBER: US/09/642,855
CURRENT FILING DATE: 2000-08-21
PRIOR FILING DATE: 1999-10-06
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 2361; DB 4; Length 445; 100.0%; Pred. No. 3.7e-161; ive 0; Mismatches 0; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OTHER INFORMATION: Description of Artificial Sequence: PEPTIDE
                                                                                   RAFTKLLCPOKLKIOPHSSLEHCWK 445
                                                                                                   RAFTKLLCPOKLKIOPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 7, Application US/09642855
Patent No. 6413743
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQ ID NOS: 8
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO.
LENGTH: 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches 445; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; OTHER INFOR
US-09-642-855-7
                           361
                                                                                   421
                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                    g
                                                                                 ò
                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
```

```
240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121 SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVKKMLLVWVLAFILLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361 AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MERAPPOGPINASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 ADSSLRTQNNPFILLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181 SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GPEPPPEAQPSPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241 GPEPPPEAQPSPPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL
                                               GENERAL INPORMATION:
APPLICANT: Lovenberg, Timothy
APPLICANT: Lovenberg, Timothy
APPLICANT: Lovenberg, Timothy
APPLICANT: Pyati, Jayashree
APPLICANT: Huvar, Arne
TITLE OF INVENTION: DNA ENCODING A HUMAN HISTAMINE RECEPTOR OF THE H3
TITLE OF INVENTION: SUBTYPE
FILE REFERENCE: ORT1290
CURRENT APPLICATION NUMBER: US/09/642,514
CURRENT FILING DATE: 1098-10-06
PRIOR FILING DATE: 1998-10-06
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                     H3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 100.0%; Score 2361; DB 4; Length 445; Best Local Similarity 100.0%; Pred. No. 3.7e-161; Matches 445; Conservative 0; Mismatches 0; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; OTHER INFORMATION: Description of Artificial Sequence: PEPTIDE
US-09-642-514-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 4
US-08-985-090-2
Sequence 2, Application US/08985090
Patent No. 5885893
GENERAL INFORMATION:
APPLICANT: Andrew D.J. Goodear1
TILLE OF INVENTION: MUSCARINIC RECEPTORS AND USES THEREFOR NUMBER OF SEQUENCES: 28
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RAFTKLLCPQKLKIQPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421 RAFTKLLCPQKLKIQPHSSLEHCWK
Sequence 7, Application US/09642514
Patent No. 6437100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT ORGANISM: Artificial Sequence
```

ó

```
E: LAHIVE & COCKFIELD, LLP 28 State Street
                                                                                                                                                                                                                                                                                                                                                                                                            NAME: Elizabeth A. Hanley
REGISTRATION NUMBER: 33,505
REFERENCE/DOCKET NUMBER: MNI-032CP
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                       CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/042,780
FILING DATE:
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-
SOFTWARE: PatentIn Release #
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: (617)742-4214
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (617) 227-7400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    445 amino acids
                                                                                                                Boston
3: Massachusetts
FRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches 444; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-09-165-543-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    amino acid
   GENERAL INFORMATION:
                                                                                                                                                                     02109
                                                                                                                                                                                                                                                                                                        FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEPHONE:
                                                                                                                  CITY: BOE
STATE: Ma
COUNTRY:
                                                                                                    STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301 ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361 AVIVSIFGLCWAPYTLLMITRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MERAPPDGPLNASGALAGEAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SSIPEGHCYAEFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGARBAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241 GPEPPPEAQPSPPPPPGCWGCWQKGHGEAMPLHRYGVGBEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SSI PEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GPEPPPEAQPSPPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 99.8%; Score 2357; DB 2; Length 445; Best Local Similarity 99.8%; Pred. No. 7.2e-161; Matches 444; Conservative 1; Mismatches 0; Indels
                                                                                                                  MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC Compatible
OPERATURG SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RAFTKLLCPOKLKIOPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RAFTKLLCPOKLKIOPHSSLEHCWK 445
                                                                                                                                                                     SOFTWARE: Patentin Release #1.0, CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/985,090 FILING DATE:
                                                                                                                                                                                                                                                                                  ATTORNEY AGENT INFORMATION:
NAME: Jean M. Silveri
REGISTRATION NUMBER: 39,030
REFERENCE TOOKET NUMBER: MNI-032
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617)227-7400
ADDRESSEE: LAHIVE & COCKFIELD, STREET: 28 State Street
                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 445 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                TELEPHONE: (61//2-/214 met.RPAX; (617)742-4214
                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: (617)742-421
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; MOLECULE TYPE: protein US-08-985-090-2
                                                                                                                                                                                                                                     PRIOR APPLICATION DATA: APPLICATION NUMBER:
                               CITY: Boston
STATE: Massachusetts
                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear
                                                                  USA
                                                                                                                                                                                                                                                                        FILING DATE:
                                                                                  ZIP: 02109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY:
                                                                    COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
```

RESULT 5 US-09-165-543-2 ; Sequence 2, Application US/09165543 ; Patent No. 6093545

```
120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SAFNIVLISYDRFLSVTRAVSYRAQQDTRRAVEKKLLVWVLAFLLYGPAILSWEYLSGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 ADSSLRIQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWIFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301 ASPTSSSGSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 HERAPPOGPLNASGALAGEAAAAGGARGFSAAWTAVLAALWALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241 GPEPPPEAQPSPPPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361 AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GPEPPPEAQPSPPPPPCCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99.8%; Score 2357; DB 3; Length 445; 99.8%; Pred. No. 7.2e-161; Live 1; Mismatches 0; Indels
APPLICANT: Andrew D.J. Goodearl and Sandra Glucksman TITLE OF INVENTION: Muscarinic Receptors and Uses Therefor NUMBER OF SEQUENCES: 39
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD, LLP
                                                                                                                                                                                                                                                                                                                                                         OPERATING SYSTEM: PC_DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/165,543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421 RAFTKLLCPOKLKIOPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
```

ö

```
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-891-053-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 8
US-09-165-543-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           р
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                       | GENERAL INFORMATION:
| GENERAL INFORMATION:
| GENERAL INFORMATION:
| JAPPLICANT: VENTER, J. Craig et al.
| TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
| TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF:
| TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF:
| TITLE OF ILING DATE: 2000-04-14
| TRIOR APPLICATION NUMBER: 60/241,755
| PRIOR PELING DATE: 2000-10-20
| PRIOR APPLICATION NUMBER: 60/231,768
| PRIOR FILING DATE: 2000-10-03
| PRIOR FILING DATE: 2000-10-04
| PRIOR FILING DATE: 2000-09-08
| NUMBER OF SEQ ID NOS: 207012
| SEQ ID NOS: 207012
| SEQ ID NOS: 207012
| SEQ ID NOS: 207012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         365 AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR 424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GPEPPPEAQPSPPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          305 ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL 364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5 MERAPPDGPLNASGALAGEAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              65 ADSSLRTQNNFFLINLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPALLSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      245 GPEPPPEAQPSPPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 449;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99.8%; Score 2357; DB 4;
99.8%; Pred. No. 7.3e-161;
tive 1; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RAFTKLLCPQKLKIQPHSSLEHCWK 445
Sequence 10930, Application US/09949016
Patent No. 6812339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 7
US-09-891-053-20
; Sequence 20, Application US/09891053
; Patent No. 6750322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
APPLICANT: Itadani, Hiraku
APPLICANT: Takimura, Tetsuo
APPLICANT: Nakamura, Takao
APPLICANT: Kobayashi, Masahiko
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 99.8°
Matches 444; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                      , ORGANISM: Human
US-09-949-016-10930
                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      425
                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: PRT
```

요 ઠે g 6 ద ò g ò g

ઠે

ద

ò

g

ò

g

ò

```
120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301 ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241 GPEPPPEAQPSPPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MERAPPDGPLNASGALAGEAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GPEPPPEAQPSPPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 MERAPPOGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
APPLICANT: Tanaka, Ken-ichi
APPLICANT: Hidaka, Yusuke
APPLICANT: Hidaka, Yusuke
APPLICANT: Ohta, Masataka
TITLE OF INVENTION: NOVEL GUANOSINE TRIPHOSPHATE (GTP)
TITLE OF INVENTION: BINDING PROTEIN-COUPLED RECEPTOR PROTEINS
FILE REFERRNCE: 05501-08300.
FURRENT APPLICATION NUMBER: US/09/891,053
CURRENT FILING DATE: 2001-09-17
PRIOR PRILING DATE: 1999-12-24
PRIOR FILING DATE: 1999-12-25
PRIOR PRILING DATE: 1998-12-25
PRIOR PRILING DATE: 1998-12-25
PRIOR PRILING DATE: 1998-0-2-25
NUMBER OF SEQ ID NOS: 26
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 20
LENGTH, 453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 5, Application US/09165543

Patent No. 6033545

GENERAL INFORMATION:
TITLE OF INVENTION: Muscarinic Receptors and Uses Therefor NUMBER OF SEQUENCES: 39

CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD, LLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 453;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 99.8%; Score 2357; DB 4;
Best Local Similarity 99.8%; Pred. No. 7.3e-161;
Matches 444; Conservative 1; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RAFTKLLCPOKLKIOPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421 RAFTKLLCPQKLKIQPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE: LAHIVE & COCKFIELD, STREET: 28 State Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CITY: Boston
STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNTRY:
```

ö

```
SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GPEPPPEAQPSPPP-PPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGS 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300 VASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKWVSQSFTQRFRLSRDRKVAKS 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360 LAIIVSIFGLCWAPYTLLMIRAACHGRCIPDYWYETSFWLLWANSAVNPULYPLCHYSF 419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LAVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSF 419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MERAPPDGLMNASGTLAGEAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240 GPEPPPDAQPSPPPAPPSCWGCWPKGHGEAMPLHRYGVGEAGPGVEAGEAALGGGSGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181 SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGGRE-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                     APPLICANT: OLICA MASCALARA

TITLE OF INVENTION: BINDING PROTEIN-COUPLED RECEPTOR PROTEINS
TITLE OF INVENTION: BINDING PROTEIN-COUPLED RECEPTOR PROTEINS
FILE REPERENCE: 06501-09101
CURRENT APPLICATION NUMBER: US/09/891,053
CURRENT FILING DATE: 2001-09-17
PRIOR FILING DATE: 1999-12-24
PRIOR FILING DATE: 1999-12-25
PRIOR FILING DATE: 1999-12-25
PRIOR APPLICATION NUMBER: UF/114561
PRIOR APPLICATION NUMBER: UF 11/14561
PRIOR PILING DATE: 1999-05-25
PRIOR APPLICATION NUMBER: UF 11/14561
PRIOR PELING DATE: 1999-05-25
PRIOR PELING DATE: 1999-05-25
PRIOR PELING DATE: 1990-05-25
PRIOR PELING DATE: 1990-05-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           18; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Itadani, Hiraku
APPLICANT: Takimura, Tetsuo
APPLICANT: Nakamura, Takao
APPLICANT: Kobayamahi, Masahiko
APPLICANT: Tanaka, Ken-ichi
APPLICANT: Hidaka, Yusuke
APPLICANT: Hidaka, Yusuke
APPLICANT: Ohta, Wasataka
TITLE OF INVENTION: NOVEL GUANOSINE TRIPHOSPHATE (GTP)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
93.7%; Score 2213; DB 4;
Best Local Similarity 93.5%; Pred. No. 1.4e-150;
Matches 417; Conservative 9; Mismatches 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RRAFTKLLCPQKLKIQPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; Sequence 1, Application US/09891053; Patent No. 6750322; GENERAL INFORMATION:
Kobayashi, Masahiko
                       Tanaka, Ken-ichi
Hidaka, Yusuke
                                                                                                                                                                                                                                                                                                                                                                                                                         ; TYPE: PRT
; ORGANISM: Rattus norvegicus
US-09-891-053-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-891-053-1
                                                                                                                                                                                                                                                                                                                                                                               SEQ ID NO 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGGRE-A 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LAIIVSIFGLCWAPYTLLMIIRAACHGRCIPDYWYETSFWLLWANSAVNPVLYPLCHYSF 419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300 AASPISSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKAVSQSIIQRFRLSRDKKVAKS 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LAVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSF 419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 ADSSLRTQNNFFLIANLAISDFLVGARCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121 SVFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKWALVWVLAFLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MERAPPDGLMNASGTLAGEAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMIAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GPEPPPEAQPSPPP-PPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300 VASPISSSGSSSRGIERPRSLKRGSKPSASSASLEKRMKMVSQSFIORFRLSRDRKVAKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MERAPPDGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          93.7%; Score 2213; DB 3; Length 445; 93.5%; Pred. No. 1.4e-150; tive 9; Mismatches 18; Indels
      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
APPLICATION DATA:
PILING DATE:
                                                                                                                                                                                                                                                                      ATTORNEY AGENT INFORMATION:
NAME: Blizabeth A. Hanley
REGISTRATION WUNBER: 33,505
REGISTRATION WUNBER: 33,505
REFERENCE/DOCKET NUMBER: MNI-032CP
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 227-7400
TELEPHONE: (617) 742-4214
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 445 amino acids
TYPE: amino acids
TYPE: amino acids
TYPE: amino acids
TYPE: amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        420 RRAFIKLLCPQKLKIQPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RRAFTKLLCPQKLKVQPHGSLEQCWK
                                                                                                                                                                                                                   PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/042,780
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 25, Application US/09891053
Patent No. 6750322
GENERAL INFORMATION:
APPLICANT: Itadani, Hiraku
APPLICANT: Takimura, Teteno
APPLICANT: Nakamura, Takao
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 93.5
Matches 417; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       , MOLECULE TYPE: protein US-09-165-543-5
                                                                                                                                                                                              CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 9
US-09-891-053-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠ
```

240

9 9

Gaps

.; ;

239

```
ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 ADSSLRTQNNFFILINIAISDFLVGARCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCAS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300 VASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKS 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      274 -----SSGSSSRGTERPRSLKRGSKPSASSASLEKRMKWVSQSITQRFRLSRDKKVAKS 327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GPEPPPEAQPSPPP-PPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGS 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LAVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVMPVLYPLCHHSF 419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1. MERAPPDGLMNASGTLAGEAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SVFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKWALVWVLAF1LYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181 SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGGRE-A
                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MERAPPOGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                            12; Indels 34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240 GPEPPDDAQPSPPPAPPSCWGCWPKGHGEAMPLH--------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BINDING PROTEIN-COUPLED RECEPTOR PROTEINS
                                                                                                                                                                                                                                                                                                                                                        Length 413;
                                                                                                                                                                                                                                                                                                                                                      Query Match 87.1%; Score 2057; DB 4; Best Local Similarity 87.9%; Pred. No. 1.8e-139; Matches 392; Conservative 8; Mismatches 12;
              CURRENT APPLICATION NUMBER: US/09/891,053
CURRENT APPLICATION NUMBER: US/09/891,053
CURRENT APPLICATION NUMBER: PCT/UP99/07280
PRIOR FILING DATE: 1999-12-24
PRIOR APPLICATION NUMBER: PCT/UP98/05967
PRIOR APPLICATION NUMBER: PT/UP98/05967
PRIOR APPLICATION NUMBER: UP 11/14561
PRIOR PILING DATE: 1999-12-25
PRIOR FILING DATE: 1999-05-25
NUMBER OF SEQ ID NOS: 26
SOFTWARE: PSECSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RRAFTKLLCPOKLKVQPHGSLEQCWK 413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE: LAHIVE & COCKFIELD, LLP STREET: 28 State Street CITY: Boston STATE: Massachusetts COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                            TYPE: PRT ORGANISM: Rattus norvegicus
                                                                                                                                                                                                                                                                                                                   US-09-891-053-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               388
                                                                                                                                                                                                                                      SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
```

ઠ

ò

```
121 TLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGGRE-AGPEPPDAQPSPPPAPPSCWGCW 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240 GSKPSASSASLEKRMKAVVSQSITQRPRLSRDKKVAKSLAIIVSIFGLCWAPYTLLMIIRA 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300 ACHGRCIPDYWYETSFWLLWANSAVNPVLYPLCHYSFRRAFTKLLCPQKLKVQPHGSLEQ 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        144 AQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGGSSIPEGHCYAEFFYNWYFLITAS 203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 AQQGDTRRAVRXMALVWVLAFLLYGPAILSWEYLSGGSSIPEGHCYAEFFYNWYFLISAS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   263 QKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGVASPTSSSGSSSRGTERPRSLKR 322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180 PKGHGEAMPLHRYGVGEAGPGVEAGEALGGGSGGGAAASPTSSSGSSSKGTERPRSLKR 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSLAVIVSIFGLCWAPYTLLMIIRA 382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          383 ACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFRRAFTKLLCPQKLKIQPHSSLEH 442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      84 GAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTSSAFNIVLISYDRFLSVTRAVSYR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 GAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCASSVFNIVLISYDRFLSVTRAVSYR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAAGPEPPPEAQPSPPP-PPGCWGCW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    77.4%; Score 1828; DB 2; Length 362; 92.8%; Pred. No. 3.8e-123; tive 8; Mismatches 16; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 32, Application US/09165543
Patent No. 6093545
GENERAL INFORMATION:
APPLICANT: Andrew D.J. Goodearl and Sandra Glucksman
TITLE OF INVENTION: Muscarinic Receptors and Uses Therefor
NUMBER OF SEQUENCES: 39
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD, LLP
STREET: 28 State Street
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
                                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Jean M. Silveri
REGISTRATION NUMBER: 39,030
REFERENCE/DOCKET NUMBER: MNI-ORECOMMUNICATION INFORMATION:
TELEPOMEN (617)722-4214
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 362 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity 92.8
Matches 337; Conservative
                          SOFTWARE: Patentin Re
CURRENT APPLICATION DATA
APPLICATION NUMBER: U
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY: linear
MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CITY: Boston
STATE: Massachusetts
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         443 CWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 12
US-09-165-543-32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-985-090-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
```

```
Length 390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30.7%; Score 724; DB 3; Length 39 38.6%; Pred. No. 3.3e-44; ive 56; Mismatches 131; Indels
                                                                                             Indels
                                                         77.1%; Score 1820; DB 3; 78.7%; Pred. No. 1.4e-122; iive 1; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Behan, Jiang Xu
APPLICANT: Hedrick, Joseph A.
APPLICANT: Hedrick, Joseph A.
APPLICANT: Hedrick, Joseph A.
APPLICANT: Monsma, Frederick J. Jr.
APPLICANT: Monsma, Frederick J. Jr.
APPLICANT: Willand, Shelby P.
APPLICANT: Willand, Shelby P.
TITLE OF INVENTION: Histamine receptor
FILE REFERENCE: CN01069
CURRENT APPLICATION NUMBER: US/09/414,010
CURRENT FILING DATE: 1999-10-07
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421 RAFTKLLCPOKLKIOPHSSLEHCWK 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             327 RAFTKLLCPQKLKIQPHSSLEHCWK 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 2, Application US/09414010
Patent No. 6204017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              260 ------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity 38.6
Matches 164; Conservative
                                                           Query Match 77.1
Best Local Similarity 78.7
Matches 350; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
ORGANISM: Homo sapiens
       ORGANISM: HOMO SAPIENS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
           ; UKGANISM: EX
US-09-524-162-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 14
US-09-414-010-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-414-010-2
                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                    셤
                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TLEFFTPFLSVTFFNLSIYINIQRRTRLRLDGAREAAGPEPPPEAQPSPPP-PPGCWGCW 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180 PKGHGEAMPLHRYGVGEAGPGVEAGEAALGGGSGGGAAASPTSSSGSSSRGTERPRSLKR 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240 GSKPSASSASLEKRMKAVSQSITQRFRLSRDKKVAKSLAIIVSIFGLCWAPYTLLMIIRA 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFRRAFTKLLCPQKLKIQPHSSLEH 442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300 ACHGRCIPDYMYETSFWLLWANSAVNPVLYPLCHYSFRRAFTKLLCPOKLKVQPHGSLEQ 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGGRE-AGPEPPPDAQPSPPPAPPSCWGCW 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCASSVFNIVLISYDRFLSVTRAVSYR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 AQQCDTRRAVRKMALVWVLAFLLYGPAILSWEYLSGGSSIPEGHCYAEFFYNWYFLISAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTSSAFNIVLISYDRFLSVTRAVSYR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     144 AQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGGSSIPEGHCYAEFFYNWYFLITAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSVASPTSSSGSSSRGTERPRSLKR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSLAVIVSIFGLCWAPYTLLMIIRA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 362;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
APPLICANT: Ping Teui
TITLE OF INVENTION: HUMAN HISTAMINE H3 GENE VARIANT-2
FILE REFERENCE: GP-70681
CURRENT APPLICATION NUMBER: US/09/524,162
CURRENT PILING DATE: 2000-03-13
NUMBER OF SEQ ID NOS: 2
SOFTWARE: FASELSEQ for Windows Version 3.0
SEQ ID NO 2
LENGTH: 351
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/165,543
FILING DATE:
CLASSIPICATION:
PRIOR PRESENCE OF COMPANIES OF COMPANION NUMBER: 09/042,780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    77.4%; Score 1828; DB 3; 92.8%; Pred. No. 3.8e-123; ative 8; Mismatches 16;
                                                                                                                                                                          ATTORNEY/AGENT INFORMATION:
NAME: Elizabeth A. Hanley
REGISTRATION NUMBER: 33,505
REPREMENCE/DOCKET NUMBER: MNI-032CP
TELECOMUNICATION INFORMATION:
TELEPHONE: (617)227-7400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 2, Application US/09524162
Patent No. 6355452
                                                                                                                                                                                                                                                                                               TELEFAX: (617)742-4214
INFORMATION FOR SEQ ID NO: 32:
                                                                                                                                                                                                                                                                                                                                   SEQUENCE CHARACTERISTICS:
LENGTH: 362 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 92.8
Matches 337; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                              ; MOLECULE TYPE: protein US-09-165-543-32
                                                                                                                                                                                                                                                                                                                                                                                               linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ||||
CWK 362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CWK 445
                                                                                                                                                                    FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 13
US-09-524-162-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               윱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ሯ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠ
```

```
ñ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                               107 SAFNIVLISYDRFLSYURAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  167 SSIPEGHCYAEFFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA 226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -----RKVAKSL 266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               267 AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLXPLCHHSFR 326
                                                                                                                                                                                                                                                                        61 ADSSLRTCNNFFFLINLALSDFLV------GRWTFCRGLCKLWLVVDYLLCTS 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GPEPPPEAQPSPPPPPGCWGCWQKGHGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSV 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   90 LYVPYVLTGRWTFGRGLCKLWLVVDYLLCTSSAFNIVLISYDRFLSVTRAVSYRAQQGDT 149
                                                                                                                      9
                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 ADSSLRTQNNFFLLNLAISDFLVGAFCIPLYVPYVLTGRWTFGRGLCKLWLVVDYLLCTS
                                                                                                                   1 MERAPPOGPLNASGALAGDAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                     1 MERAPPDGPLNASGALAGEAAAAGGARGFSAAWTAVLAALMALLIVATVLGNALVMLAFV
                                                                                                                                                                                                                                                                                                                                                             SAFNIVLISYDRFLSVTRAVSYRAQQGDTRRAVRKMLLVWVLAFLLYGPAILSWEYLSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SSIPEGHCYAEPFYNWYFLITASTLEFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2.7 GPEPPPEAOPSPPPPGCWGCWOKGHGEAMPLH---------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301 ASPTSSSGSSSRGTERPRSLKRGSKPSASSASLEKRMKMVSQSFTQRFRLSRDRKVAKSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361 AVIVSIFGLCWAPYTLLMIIRAACHGHCVPDYWYETSFWLLWANSAVNPVLYPLCHHSFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             30 SAAWTAVLAALMALLIVATVLGNALVMLAFVADSSLRTQNNFFLLNLAISDFLVGAFCIP
                                                           Gaps
                                                           94;
Length 351;
```

```
Search completed: June 2, 2005, 20:41:49
Job time : 29 secs
                                         셤
                                                                                           g
                                                                                                                       ò
                                                                                                                                                   셤
                                                                                                                                                                                    ò
                                                                      ò
                                                                        181
                                                                                                                                                         HGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGGSVASPTSSSGSS-----SRGTERPR 318
                                                                                                                                                                                                                                   150 RRAVRKMLLVWVLAFILLYGPAIL---SWEYLSGGSSIPEG-HCYAEFFYNWYFLITASTL 205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
BFFTPFLSVTFPNLSIYLNIQRRTRLRLDGAREAAGPEPPPEAQPSPPPPGCWGCWQKG 265
                                                                                                                                ------WSLWKRD 205
                                                                                                                                                                            PYTILIMIIRAACHGHCVP-DYWYETSFWILWANSAVNPVLYPICHHSFRRAFTKLLCPQK 431
                                                                                                                                                                                                                                                                                        EFFTPFLSVTFFNLSIYLNIQRRTRLRLDGAREAAGPEPPPEAQPSPPPGCWGCWQKG 265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ------WSLWKRD 205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               70
                                          150 RRAVRKMLLVWVLAFILLYGPAIL --- SWEYLSGGSSIPEG-HCYAEFFYNWYFLITASTL
                                                                     130 LKIVTLMVAVWVLAFLVNGPMILVSESWK------DEGSECEPGFFSEWYILAITSFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SLKRGSKPSASSASLEKRMKMVSQSFT-----QRFRLSRDRKVAKSLAVIVSIFGLCWA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   30 SAAWTAVLAALMALLIVATVLGNALVMLAFVADSSLRTQNNFFLLNLAISDFLVGAFCIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        74; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
30.7%; Score 724; DB 4; Length 390
Best Local Similarity 38.6%; Pred. No. 3.3e-44;
Matches 164; Conservative 56; Mismatches 131; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION NUMBER: US/09/812,216
CURRENT FILING DATE: 2001-03-19
PRIOR PILING DATE: 1999-10-07
NUMBER OF SEQ ID NOS: 8
SOFTWARE: Patentin Ver: 2.1
SEQ ID NO 2
LENGTH: 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
APPLICANT: Behan, Jiang Xu
APPLICANT: Hedrick, Joseph A.
APPLICANT: Laz, Thomas M.
APPLICANT: Monsma, Frederick J. Jr.
APPLICANT: Monsma, Shelby L.
APPLICANT: Wang, Shelby P.
APPLICANT: Wang, Sue
TITLE OF INVENTION: Histamine receptor
FILE REFERENCE: CN01069
                                                                                                                    || | : | :||::||
182 EFVIPVILVAYFNMNIY------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 15
US-09-812-216-2
Sequence 2, Application US/09812216;
Patent No. 6613533
Patent No. 6613513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                432 LKIQP 436
                                                                                                                                                                                                                                                                                                                                                            375 IKKOP 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-812-216-2
                                                                                                                                                                                                                                                                                                    318
                                                                                                  206
                                                                                                                                                           566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         90
                                                                                                                                                                                                                 319
                                                                                                                                                                                                                                                                        373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 182
                                          ò
                                                                   g
                                                                                                 à
                                                                                                                       d
                                                                                                                                                        à
                                                                                                                                                                                  g
                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
```

```
266 HGEAMPLHRYGVGEAAVGAEAGEATLGGGGGGSVASPTSSSGSS-----SRGTERPR 318
                                                                                                           206 HISRCQSH-----PGLTAVSSNICGHSFRGRLSSRRSLSASTEVPASFHSERQRRKS 257
                                                                                                                                                                       PYTLLMIIRAACHGHCVP-DYWYETSFWLLWANSAVNPVLYPLCHHSFRRAFTKLLCPQK 431
                                                                                    SLKRGSKPSASSASLEKRMKMVSQSFT-----ORFRLSRDRKVAKSLAVIVSIFGLCWA
                                                                                                                                                                                                                                                         432 LKIQP 436
                                                                                                                                                                                                                                                                                      :| ||
375 IKKQP 379
                                                                                                                                                                       373
                                                                                    319
```